

CENTRAL TEST AND EVALUATION INVESTMENT PROGRAM



JOINT IMPROVEMENT AND MODERNIZATION PROJECTS PLANNING AND EXECUTION GUIDE

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FOREWORD

The office of the Director, Operational Test and Evaluation has been working closely with the Services' Test and Evaluation Executive Agent over the past year to refine coordination between the Services' investment process and that of the Central Test and Evaluation Investment Program (CTEIP). Most notable of the changes resulting from this effort is the combining of the previously separate Needs and Solutions calls into a single request for joint Solutions from the Services and Defense Agencies. In addition, the time between the initiation of the process by which a project is selected for funding and the commencement of project execution has been considerably shortened. Significant changes to the timeline of a typical project's execution and funding have also been made to further reduce the time needed to field a capability developed under the CTEIP. This updated Planning and Execution Guide has been prepared to articulate this streamlined process, along with other changes in the means by which CTEIP projects are identified, resourced, and administered. The guide should also serve to help participants in the test and evaluation community in understanding both the purpose of the CTEIP and how the program itself is managed. Included in the guide are specific requirements for the nomination, selection, documentation, and management of CTEIP projects. The focus of the guide is on projects funded under the Joint Improvement and Modernization initiative. Similar guides are available for Test Technology Development and Demonstration and the Resource Enhancement Project. While these guides are issued separately, they are also provided as Appendices to this document.

The basic structure of the guide remains unchanged from that of previous years. The first section, Program Description, provides an overview of the CTEIP's history, mission, objectives, and structure. The second section, CTEIP Planning Process, discusses how projects are planned, programmed, submitted, reviewed, and evaluated. The third section, CTEIP Project Execution, discusses the management of approved projects, as well as other technical and financial aspects of the program. Additional information and specific documentation formats are provided in the Appendices.

A handwritten signature in dark ink, appearing to read 'Dwayne Cox', with a stylized flourish at the end.

Dwayne Cox
CTEIP Program Element Manager

1 PROGRAM DESCRIPTION

1.1 Background

In response to Congressional direction to improve the coordination and planning of investments in Test and Evaluation (T&E) facilities, the Office of the Secretary of Defense (OSD) enhanced its management and oversight of the DoD T&E capability base by establishing the Central Test and Evaluation Investment Program (CTEIP). The CTEIP, given the Program Element 0604940D in 1990, was designed to provide a corporate investment approach to meeting Service and Defense Agency T&E needs. In June 1999, as part of a transfer of key test and evaluation functions within OSD, responsibility for oversight of both the CTEIP and the Major Range Test Facility Base (MRTFB) was transferred to the Director, Operational Test and Evaluation (DOT&E). Additional information on DOT&E and other organizations that are involved with the CTEIP is contained in Appendix A.

The allocation of test resources on the basis of corporate rather than Service-level criticality increases interoperability and interconnectivity among test centers and ranges and focuses T&E expertise on test requirements that are of the highest priority. Joint initiatives and the elimination of unwarranted duplication of effort are also promoted. Individual investments within the CTEIP take the form of projects that are assigned to the Services and Defense Agencies for execution and implementation. Congressional language has established three foundation criteria for CTEIP projects in that they must

- a. have multi-Service applicability;
- b. be developmental in nature; and
- c. not be used for procurement.

1.2 Objectives

The CTEIP has the following objectives:

- a. Support projects that apply state-of-the-art technologies to correct deficiencies in DoD T&E capabilities.
- b. Maximize efficient inter-Service use of test assets by improving interoperability and interconnectivity among test centers, ranges, and facilities.
- c. Establish and maintain a T&E technology development program to investigate, develop, and produce prototypes of advanced technologies for application to T&E that add technical capability and value to the T&E program, as well as reduce manpower and maintenance requirements, operating expenses, and other costs.
- d. Achieve consistency, commonality, and interoperability across the Services in targets, test instrumentation, and threat simulators.
- e. Develop, validate, and integrate modeling and simulation with open-air testing to provide timely, accurate, and cost-effective results.
- f. Promote mobile test instrumentation as an alternative to fixed facilities where economically and technically feasible.

- g. Provide resources to respond to shortfalls in critical near-term operational test capabilities.

1.3 Program Structure

The CTEIP Program Element comprises three categories of projects:

- a. Joint Improvement and Modernization (JIM) projects, which provide joint investments to improve the test capabilities base.
- b. The Test Technology Development and Demonstration (TTD&D) project, which facilitates the transition of technology from laboratories to enhanced test capabilities and reduces technical risk in testing of future defense systems.
- c. The Resource Enhancement Project (REP), which funds the development of quick-reaction, near-term solutions to operational test shortfalls in support of ongoing test programs.

JIM projects represent investments that are critically needed in the development of advanced technologies needed to test increasingly complex and sophisticated weapon systems. Project subject matter includes automated data collection, processing, display, and archiving; smart munitions testing; simulation and end-game measurement; testing applications of advanced materials; test design; advanced sensors; and space systems. In addition, a standing JIM project addresses the development of threat systems. A special focus within the CTEIP continues to be placed on the potential electronic linking of test ranges and centers to improve test realism, increase testing efficiency, and support joint training.

The TTD&D Project is intended to facilitate the transition of mature technologies from laboratories to satisfy test and evaluation needs. Prime consideration is given to subprojects that show the potential for high payback in terms of better data for decision making, increased test efficiencies, greater safety, labor savings, and reduced maintenance costs. Through the TTD&D Project, the T&E community is provided with the equipment and methods to test and evaluate new weapons systems that are evolving from advanced research and development initiatives.

The REP is intended to resolve near-term shortfalls in operational test capabilities that require immediate development and funding. The need for these capabilities is generally not known sufficiently in advance of the operational test to be included in the Services' or Defense Agencies' normal programming and budgeting cycle. Funding the development of such capabilities as REP subprojects under the CTEIP provides the opportunity to coordinate and integrate near-term test requirements with DoD-wide T&E investment planning. It also ensures that other programs that may have similar testing requirements are taken into consideration.

To facilitate their selection and review, CTEIP JIM projects will be identified by functional areas consistent with the manner in which test capabilities are grouped throughout DoD. The areas and their definitions are:

- a. Air Combat, which covers fixed/rotary wing aircraft and T&E support aircraft. This area includes fixed wing aircraft, rotary wing aircraft, unmanned air vehicles, and cruise missiles

up to the terminal stage, but excludes munitions aspects. T&E support aircraft are typically modified extensively and predominantly used for specialized T&E support.

- b. Land Combat, which covers land vehicles and chemical warfare/chemical and biological defense (CW/CBD). Land vehicle systems include self-propelled or towed systems and components, as well as the individual soldier. CW/CBD includes chemical retaliatory, incapacitating, and riot control agents and herbicides and their delivery systems; chemical and biological agent contamination; chemical and biological agent detection, identification, and warning; individual protective items and clothing; collective protection; general chemical and biological threat assessment; and smoke and obscurants.
- c. Sea Combat, which covers a broad range of systems and requires an equally broad range of test capabilities. Included are hull, mechanical, and electrical systems for surface ships, submarines, and undersea unmanned vehicles; signature and silencing, including acoustic and non-acoustic; propulsors; combat systems, including guns and missile launchers but excluding projectiles and missiles, for anti-submarine warfare (ASW), anti-air warfare (AAW), anti-surface warfare (ASUW), discrete self-defense that is not integral to other combat systems, strike, and theater air defense; maritime Command, Control, Communication, Computers and Intelligence (C⁴I) systems, including shipboard and associated land-based radio frequency and satellite communications/switching networks, and tactical data processing and displays; ship-based space and electronic warfare systems; undersea surveillance systems, including land-based components; ship-based aircraft ASW/ASUW, including unmanned aerial vehicles (UAVs) but excluding the airframe and flight support systems; mine warfare systems, including airborne systems; and sea-based special warfare/explosive ordnance disposal systems.
- d. Space Combat, which covers DoD ground and space based test capabilities that perform test and evaluation of weapon systems and components in a duplicated or simulated space and ballistic missile environment, including ground based testing infrastructures and space and ballistic launch facilities and ranges.
- e. Common Range Instrumentation, which covers common airborne instrumentation systems, Global Position System/Time Space Position Information (TSPI), the National Airspace Program, and common range instrumentation systems. These systems are normally associated with air traffic control; position tracking; and data acquisition, recording, reduction, and reporting.
- f. Electronic Combat, which covers electronic combat systems that span the entire electromagnetic spectrum, both offensive and defensive. Electronic Combat includes subsystems, technologies, and techniques for electronic warfare and suppression of enemy air defense. It also includes electronic countermeasures such as jamming, electronic support measures such as threat warning, and electronic counter-countermeasures associated with offensive avionics.
- g. Armament and Munitions, which covers guns/munitions, armament/missiles, electric gun, and directed energy weapons. Guns/Munitions includes guns, howitzers, mortars, machine

guns, grenade launchers, small arms, and their munitions. Armament/Missiles includes air-to-air, air-to-surface, and surface-to-air weapons, as well as surface-to-surface missiles and Theater Missile Defense capabilities. Electric gun and directed energy weapon programs are currently in research and development.

- h. Targets, which differs significantly from most other areas in that targets are expendable test resources and not test investments. Targets include aerial targets, land and sea surface targets, ballistic missile targets, and anti-radiation missile targets. Non-expendable target assets are also included, such as target command and control systems, scoring systems, and target threat emitters.
- i. Test Environments, which covers those capabilities replicating the normal and extreme of land, air, water, and space operating regimes. This includes air breathing engines, climatic, nuclear weapons effects, aero-thermodynamics, and non-air breathing propulsion test facilities. Supersonic sled tracks are also included in this area.
- j. Command, Control, Communications, Computers, and Intelligence (C⁴I), which covers command, control, communications, computer (automated information systems), and intelligence systems or equipment that assist a commander in planning, directing, and controlling forces in both war and peace. C⁴I systems normally consist of some combination of hardware, software, personnel, facilities, and procedures. Their function is to collect, process, transfer, integrate, store, produce, disseminate, and display information. Imbedded software normally associated with non-C⁴I systems is excluded from this area.

2 CTEIP PLANNING PROCESS.

The process described in this section, as well as that described in Section 3.0, is applicable to JIM projects only. The separate processes in place for the planning and execution of the REP and TTD&D subprojects are contained in their respective Planning and Execution Guides. These documents are issued under separate cover, but are included as Appendices J and K. A planning document is currently being drafted to provide guidance for the conduct of threat systems development within the CTEIP. When this document is completed, it will be issued in an Addendum to the JIM Planning and Execution Guide.

2.1 Investment Planning Process

The CTEIP investment planning process is a joint process that is integrated within the overall DoD T&E investment planning process and synchronized with the Planning, Programming, and Budgeting System (PPBS). The objective of the CTEIP process is to have a set of joint T&E investments of high priority identified, reviewed, evaluated, and approved for inclusion into each biannual Program Objective Memorandum (POM). DoD T&E investment planning is a continuing process of determining test requirements and selecting specific test investments (Solutions) that meet the Department's shortfalls in test capabilities. Integral to this process is the OSD Test Investment Coordinating Committee (OTICC), which serves as the advisory body to DOT&E for the oversight and management of the CTEIP. To respond to the PPBS timetable,

an integrated CTEIP process has been established with the participation of the T&E Executive Agent (T&E EA), the Services, and Defense Agencies. This process begins every other year with a Needs and Solutions Call from the T&E EA. For any given POM FYXX, the Call is issued three years before the appropriation, i.e., FYXX-3. The Call is sent to the Service T&E headquarters to initiate the Service process and to DOT&E, who forwards the Call to the cognizant Defense Agencies. This ensures that the entire DoD community has the opportunity to submit their requirements in test capability investments. The Defense Agencies forward their CTEIP Needs and Solutions to DOT&E, which then sends them to the T&E EA for deconfliction, elimination of duplication, and possible consolidation with like Service Solutions. The T&E EA identifies those Solutions resulting from the Service process and those submitted by the Defense Agencies that have the potential of meeting CTEIP funding criteria (with jointness as the predominant discriminator). The T&E EA then consolidates these CTEIP proposals, prioritizes them, and submits them to DOT&E for consideration as validated CTEIP projects and incorporation into the POM.

2.1.1 Integrated Test Investment and PPBS Process

The following is the schedule for the joint T&E investment process starting with the initial Needs and Solutions Call leading to the appropriation in FYXX. As stated above, the schedule is driven by the integrated planning process for T&E investments and the PPBS.

Month(s)	Fiscal Year	
February	XX-3	T&E EA issues FYXX Needs and Solutions Call
June	XX-3	Services submit Needs and Solutions/DOT&E forwards Defense Agency Needs and Solutions to T&E EA
January	XX-2	Defense Planning Guidance (DPG) issued
February-May	XX-2	POM preparation for FYXX-FYXX+5
March	XX-2	T&E EA forwards deconflicted and prioritized CTEIP proposals to DOT&E
May	XX-2	DOT&E resources proposals and includes results as CTEIP input to the POM
June	XX-2	DOT&E submits CTEIP input FYXX POM
January-February	XX-1	FYXX President's Budget (PB) submitted to Congress
March-September	XX-1	Congressional enactment of FYXX Defense Appropriations
October	XX	FYXX funding appropriated

2.2 CTEIP Project Proposals

This section addresses the preparation and submission of proposals for JIM projects to be funded under the CTEIP. Proposals are written by a sponsoring Service or Defense Agency field activity and submitted in the form of a Solution in the format generated by the Test Investment Database (TID).

2.2.1 Test Investment Database (TID)

The T&E EA uses the TID to track and document the Needs and Solutions of the Services and

Defense Agencies. The TID provides the basis for the evaluation of Solutions and is used to produce an endorsed list of test investments. Inputs to the TID are facilitated by the T&E EA providing users with a FileMaker Pro run-time database.

2.2.2 Proposal Content

The CTEIP proposal should clearly demonstrate that benefits to the T&E community will accrue in supplying a needed capability in an efficient and effective manner. It should be written to demonstrate that it represents a logical approach to developing a T&E capability that satisfies a valid Need. While it is not required that the submission contain information as detailed as that contained in a Project Management Plan (PMP), it must contain enough information (or best estimates) to make the project credible from technical, performance, schedule, and economic standpoints. It must also identify and discuss all known competing or alternative efforts.

The content of a JIM Project Proposal is provided in Appendix B.

2.2.3 Evaluation of CTEIP Proposals

CTEIP proposals submitted by the Services and Defense Agencies are reviewed and evaluated for submission within the Service, the Defense Agencies, and the T&E EA. The evaluation criteria used at each level of review should be, for the most part, reflective of the CTEIP objectives included in Section 1.2. During any given year, additional guidance may be given to address current issues, policies, budget constraints, and concerns that influence the CTEIP or its projects. Generally, the evaluation should be based on the following considerations:

- a. Requirement. Is the requirement valid? Is it generic or driven by a specific program? Can the requirement be satisfied by other existing or planned capabilities?
- b. Jointness. Does the proposed capability have multi-Service or joint application? This is a key consideration, given the basic charter of the program. Related to this criterion is that of customer base. Are there sufficient potential users of the proposed capability to justify the expense of its development?
- c. Interoperability/Commonality/Standardization. Will project be interoperable with other DoD T&E facilities? Does it support commonality, in that it has more than one application? Does the capability establish a means or a standard for test conduct?
- d. Risk. Are the technical, performance, and schedule risks acceptable, given the technological approach and the schedule required to meet the stated need date?
- e. Cost as an Independent Variable. In the evaluation, cost must be considered as a co-equal with technical performance and schedule.

2.2.4 Resourcing and Approval of CTEIP Projects

Once the prioritized list of CTEIP proposals has been received from the T&E EA, DOT&E will use the list to build the CTEIP input to the POM. The amount of funding available to apply to new starts will vary, depending upon the funding needs of ongoing projects and the Department's fiscal guidance for the POM years. The CTEIP POM submission, including new starts, is then submitted to the OSD Comptroller. Those proposals that are not programmed in

the first two years of the POM will not be further considered for funding unless they are resubmitted in subsequent Needs and Solutions Calls.

2.2.5 Disapproved Proposals

Proposals may be disapproved on the basis of inadequate documentation or insufficient justification. They may also be disapproved for failing to meet CTEIP criteria or for inconsistency with CTEIP objectives.

3 CTEIP PROJECT EXECUTION

This section provides guidelines for the execution of JIM CTEIP projects from project initiation through transition to custodian organizations.

3.1 Project Initiation and Management

CTEIP projects identified as JIM are initiated by the issuance of a Test Package Directive (TPD), which the CTEIP PEM prepares and sends to the Service or Defense Agency OTICC member. In most cases, the initial TPD will be issued subsequent to a project's approval, i.e., in the fourth quarter of FYXX-2. With regard to the REP and TTD&D project, an annual TPD is issued that provides funding information and special instructions. The JIM project's TPD will initiate Phase I of the project's execution and direct the preparation of a Test Capability Requirements Document (TCRD), a draft Life Cycle Support Plan (LCSP), and a PMP with an Analysis of Alternatives (AoA) annex (see below).

Through the TPD, the CTEIP PEM confirms the executing Service or Defense Agency. CTEIP JIM projects are then executed by organizations within the Services and Defense Agencies with the required technical expertise, management structure, facilities, and support elements. While the OTICC and CTEIP PEM provide overall management oversight, the day-to-day management of the project is left to the individual Project Director (PD).

Generally, CTEIP JIM projects are executed in two phases:

- a. Phase I, consisting of efforts associated with concept development that are required to define the system technical and performance requirements and reduce risk. Depending upon the availability of funding, Phase I will generally commence soon after a project's approval and be one year in duration.
- b. Phase II, consisting of efforts associated with system development, including transition to the custodian organization. The initiation of Phase II is dependent upon a project meeting the Phase I exit requirements, with a target of coinciding with the first quarter of the first year that the project has funds appropriated. The duration of Phase II is dependent upon the technical complexity and scope of the project.

Transition from Phase I to Phase II is governed by completion of concept development and the completion and approval of Phase I documentation. The following provides a nominal schedule for the execution of a JIM project whose funds will be appropriated in FYXX. Details on the

required documentation referred to in this schedule may be found in section 3.2 below.

Quarter	Fiscal Year	
3 rd	XX-2	DOT&E approves CTEIP input to FYXX POM
4 th	XX-2	CTEIP PEM issues TPD to initiate Phase I
2 nd	XX-1	Project Director submits TCRD to T&E EA
2 nd	XX-1	Project Director submits draft LCSP to cognizant OTICC member(s)
2 nd	XX-1	Project Director submits PMP with AoA Annex to CTEIP PEM
2 nd	XX-1	T&E EA approves TCRD
3 rd	XX-1	OTICC member(s) approve draft LCSP
3 rd	XX-1	CTEIP PEM approves PMP and issues memo authorizing transition to Phase II
4 th	XX-1	CTEIP PEM issues TPD to initiate Phase II
1 st	XX	FYXX funds appropriated
1 st	XX	Project enters Phase II
2 nd	XX	Project Director submits initial Phase II PMP

3.2 Project Documentation

To monitor progress and provide timely management direction, the CTEIP depends on several documents and activities. These are described in the following sections.

3.2.1 Test Package Directive

The TPD transmits specific direction for the execution of the project to the PD. It provides a project description, technical information, performance parameters, schedule requirements, funding information, and special instructions. Phase I TPDs will address preparation of the TCRD, the draft LCSP, the completion of the project concept development, and the analysis of alternatives. It will also address risk reduction efforts, detailed project planning, and, as already stated, the preparation of a PMP with an Analysis of Alternatives (AoA) annex.

Phase II TPDs are prepared annually and are signed by the CTEIP PEM for all JIM projects. They provide direction on performance, schedule, and cost from which the PD updates the PMP. TPDs contain sections that address the following:

- A description of the project, based on the need for the project, the proposed T&E capability, and the key technical characteristics and performance parameters.
- Management direction to be followed in executing the project and preparing the PMP.
- Special instructions for scheduling the activities of the project.
- A funding profile—to be used for planning purposes only—based upon the latest approved budget and programming. The profile will include previous funding, the budget year plus two, and funding programmed through completion.
- Special instructions, which are exceptions and expansions to the standing project instructions that are contained in Appendix C.

The format of the TPD and the standing instructions for project execution are provided in Appendix C.

3.2.2 Project Management Plan

A PMP is required for all JIM projects and is submitted annually by the PD in response to the TPD. The PMP represents the PD's approach in executing the project. Upon its approval, the PMP constitutes the project baseline by which the project will be executed. The requirements statement, technical goals/capabilities, schedule, and funding contained in the PMP must be consistent with other project documentation. Since the management of the project is guided by the PMP, each subsequent PMP must reflect any changes from that of the previous submission. Project performance will be measured against the baseline contained in the current PMP.

The PMP must be consistent with the guidance contained in the TPD. In particular, it must reflect project execution using the funding profile in the TPD. If funding deficiencies exist, the PMP must address these in terms of their affect on performance and schedule.

The following items are the major parts of the PMP:

- a. Project Description, which includes the mission need, the T&E capability and how it was defined, key technical and performance characteristics, and technical approach.
- b. Critical/Key Issues, which describes issues that can affect the project and how they are proposed to be resolved.
- c. Project Status, which describes the current status of the project in terms of technical progress, cost, and schedule.
- d. Management Approach, which describes the project organization, technical management, strategy, cost controls, and risk management.
- e. Activation and Test, which describes the plan to test, demonstrate, and certify that the capability meets technical and performance requirements.
- f. Transition, which provides the plan for transitioning the capability from development to sustainment and/or production.
- g. Funding, which identifies the required CTEIP funding, other funding, and estimates of life-cycle funding after transition.
- h. Schedule, which identifies major milestones, including the preparation and submittal of CTEIP documentation.

The cost benefit analysis conducted during the development of the project proposal and completed during Phase I of project execution is to be documented in an Analysis of Alternatives (AoA) annex to the PMP. The annex should accompany the PMP that transitions the project into Phase II. The AoA annex summarizes the examination of the alternative approaches that were identified in the project proposal as being considered to satisfy the T&E need. If, during the course of project execution, the development approach changes, the AoA annex must be updated to address the alternatives considered in satisfying the change. The AoA annex should also be updated at each PMP update or a statement made in Section 1 of the PMP that the information in the AoA annex remains valid.

As stated above, the PMP and the AoA annex, if necessary, are updated in response to the TPD and submitted to the CTEIP PEM for review and approval. If applicable, the CTEIP PEM's recommendations and comments are then returned to the PD through the appropriate OTICC member for incorporation into a revised PMP, which is then resubmitted for the CTEIP PEM's approval.

The format and contents of the PMP and the AoA annex are provided in Appendix D.

3.2.3 Phase I Exit Requirements

There are three required CTEIP documents that must be provided to the CTEIP PEM in order for a CTEIP project to transition to Phase II. These are:

- a. Test Capability Requirements Document
- b. Life Cycle Support Plan in draft with any supporting Memoranda of Understanding (MOU)
- c. Project Management Plan with Analysis of Alternatives annex

These documents should be produced and approved within Phase I. The approval authority for these documents are identified in the chart below:

Document	Approval Authority
TCRD	BoD(ES)*
Draft LCSP	Cognizant Service or Defense Agency OTICC members
PMP with AoA Annex	CTEIP PEM

*Board of Directors (Executive Secretariat)

Document formats and instructions are provided in Appendices D through F.

Documentation will be tailored to each project to minimize the preparation of unnecessary documentation while meeting reporting requirements. For instance, CTEIP projects residing at a single location do not need a MOU addressing multi-Service cost sharing. However, a draft LCSP is needed to identify the Service that will provide logistic support once the project is complete and fielded.

While each CTEIP project is unique, the following guidelines should be followed:

- a. The TCRD should be submitted to the Joint Program Office (T&E) for entrance into the review and approval process. Copies should simultaneously be submitted to the CTEIP PEM.
- b. The TCRD must be approved prior to approval of the draft LCSP and the submittal of the PMP with AoA Annex to the CTEIP PEM.
- c. All documents must be completed, approved, and received by the CTEIP PEM before funding for Phase II will be provided.

- d. Adequate timing for staffing the documentation through the approval authorities must be planned when developing a project's schedule of milestones. The complexity of the project will directly impact the staffing time required for approval.

3.2.3.1 Test Capability Requirements Document

The TCRD validates the test capabilities to be developed by the project in terms of the stated test need, the known systems requirements, and the required initial and final operational capability. The TCRD is prepared during Phase I, signed by the pertinent user organizations, and approved by the BoD(ES). Major modifications to the requirements of a project must be documented in a revision to the TCRD and approved by the BoD(ES). Since approval of the TCRD is one of the criteria for exit from Phase I, it will be identified as a major milestone in the project's master schedule.

The TCRD format is provided in Appendix E.

3.2.3.2 Life Cycle Support Plan

The LCSP assesses the project support costs and ensures the project's supportability by identifying support requirements, estimating costs, assigning organizational responsibilities for each support element throughout the established life cycle of the project, and establishing concepts and procedures for continuing support. The LCSP is prepared in draft during Phase I and updated, as required, during Phase II as more details are established for the project. Since approval of the draft LCSP is one of the criteria for exit from Phase I, it will be identified as a major milestone in the project's master schedule.

The format for the LCSP is provided in Appendix F.

3.2.4 Monthly Status Reports

The successful management of the program depends on timely feedback from the project offices implementing the CTEIP projects. Monthly project status reports provide information to the CTEIP PEM regarding the technical and financial status of each project. Of paramount importance is the tracking of obligations and expenditures of funds to ensure that established comptroller guidelines are met. The reports are due 20 calendar days after the month being reported. The reports should be provided electronically to the CTEIP PEM or designated recipients.

The format for the Monthly Status Report is provided in Appendix G.

3.2.5 Project Final Report

The PD will prepare a final report for the project and submit it to the CTEIP PEM 60 days after project completion. The report should provide a history of the project's execution from its proposal to its transition to operational status. Major milestones in the development of the project, as well as lessons learned, should be discussed.

The format for the Project Final Report is provided in Appendix H.

3.3 CTEIP Reviews

3.3.1 CTEIP Annual Mid-Year Review

In April of each year, the CTEIP PEM conducts a review of the entire CTEIP. The review, known as the CTEIP Annual Mid-Year Review, consists of briefings by the PDs on the progress and status of each project that is either ongoing or was started in that fiscal year. The CTEIP PEM and the OTICC use this information to provide revised program direction or to make mid-year financial adjustments to the program. The review also provides an opportunity for the entire CTEIP community to interface directly with the PDs and to identify and clarify issues or concerns. All CTEIP PDs are expected to attend the full review.

Appendix I provides more specific submission requirements for the review, along with a sample format for the project briefing. All presentation materials should be forwarded to the CTEIP PEM in electronic media prior to the review, and hard copies of the presentation are to be available for distribution to the attendees.

3.3.2 Project Management Reviews

Project Management Reviews (PMRs) are conducted, as needed, by the CTEIP PEM to provide the current status of projects or to examine specific project issues and concerns.

3.3.3 OSD Test Investment Coordinating Committee (OTICC) Meetings

The OTICC and its support staff meet regularly to plan activities, review program issues, and review the financial status of the program. The forum is available to conduct PMRs or address any other matter required by any of the members of the OTICC. Project financial execution and critical issues noted in the monthly project status reports will be briefed and discussed at these meetings.

3.3.4 On-Site Project Visits and Reviews

When deemed appropriate by the CTEIP PEM, reviews are conducted at sites where projects are being developed or implemented. Such reviews are coordinated with the cognizant OTICC member and are conducted by teams that may consist of OSD, Service, and Defense Agency representatives and other subject matter experts.

3.4 Financial Management

3.4.1 Allocation of Funds

Funds are distributed as early in the fiscal year as possible. The goal is to provide total project funding in the first distribution of the fiscal year's funds unless specific circumstances such as incomplete project documentation, problems in a project's prior year execution, Continuing

Resolution Authority (CRA), etc. dictate a different amount. Any funds remaining to be allocated by the time of the annual Mid-Year Review will be distributed after the review. The funds of projects with lagging obligation and/or expenditure rates or other difficulties are subject to reallocation.

3.4.2 Obligation and Expenditure of Funds

The status of obligations and expenditures is a tool used by comptrollers to evaluate budget execution. Current CTEIP goals are that project funds will be 100% obligated and 70% expended during the initial fiscal year that funds were appropriated and 95% expended by the end of the following fiscal year. The tracking of obligations and expenditures provides a measure of how well the CTEIP is fiscally executed and whether CTEIP funding can be reallocated among projects. Optimum use of these funds requires that an obligation and expenditure forecast be prepared and kept current. The PMP requires this forecast to cover two years. The actual field obligations and expenditures from a project's Monthly Reports are compared to this forecast. There is a significant lag in the currency of financial data reported by the Defense Finance and Accounting Service (DFAS). Therefore, active management of the CTEIP and justification and defense of its budget demand that the field data submitted in the Monthly Reports reflect the most current status of obligations and expenditures.

3.4.3 Extension of Funds

As stated above, CTEIP funds are to be fully obligated by the end of the first fiscal year of appropriation. When program deviations require that these funds be available past this date, an extension must be requested. The PD, through the Service or Defense Agency OTICC member, may request an extension from the CTEIP PEM for a period not to exceed three months with a justification and an estimated obligation/expenditure date. It is emphasized that, although CTEIP funds are Research, Development, Test and Evaluation (RDT&E) funds and have an expiration period of two years, these funds are to be obligated during the fiscal year they were appropriated. Failure to do so may result in the withdrawal of these funds from the CTEIP by the OSD Comptroller for reprogramming to other requirements.

3.5 CTEIP Private Repository

The CTEIP Private Repository is hosted electronically on the Joint Information for Systems Technology, Test, and Training (JIST³) website, which has replaced the Test and Evaluation Community Network (TECNET) system and is located at <http://jcs.mil>. The purpose of the CTEIP Repository is to facilitate communication on CTEIP matters between OSD, the program's participants, and the Services and Defense Agencies. Posted in the Repository is such CTEIP documentation as OTICC meeting read-aheads and minutes, project briefs, and the CTEIP Planning and Execution Guide. Two things are required to access the CTEIP Private Repository from the menu on the JIST³ homepage: (1) a JIST³ account and (2) permission to access the CTEIP Private Repository.

A JIST³ account may be requested via e-mail to *tecadmin@tecnet1.jcte.jcs.mil* or by contacting the JIST³ administrators at 301-342-7501. Contractor applicants must have a government sponsor with an active JIST³ account.

JIST³ administrators grant access to the CTEIP Private Repository to registered JIST³ account holders at the request of the CTEIP PEM. Access may be requested from the CTEIP PEM via e-mail with provision of the following information:

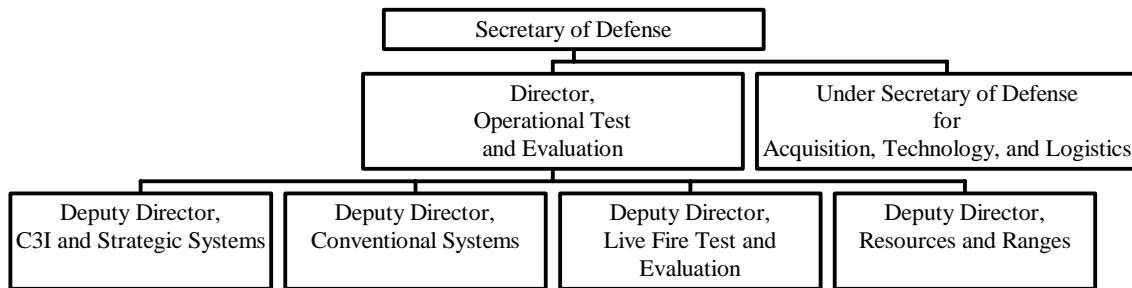
Name
JIST³ user name
Organization/Company (if contractor)
Address
Telephone number(s)
Relation to the CTEIP
Name and telephone number of government sponsor with an active JIST³ account (if contractor)

APPENDIX A

COMPOSITION OF ORGANIZATIONS RELATED TO THE CTEIP

1. Director, Operation Test and Evaluation (DOT&E)

The DOT&E is the principal staff assistant and senior advisor to the Secretary of Defense on Operational Test and Evaluation (OT&E) and Live Fire Test and Evaluation (LFT&E) in the Department of Defense (DoD). DOT&E is responsible for issuing DoD OT&E and LFT&E policy and procedures; reviewing and analyzing the results of OT&E and LFT&E conducted for each major DoD acquisition program; and providing independent assessments to the Secretary of Defense, the Under Secretary of Defense for Acquisition, Technology, and Logistics (USD(AT&L)) and Congress. The Director's office is also responsible for making budgetary and financial recommendations regarding OT&E and ensuring that OT&E and LFT&E for major DoD Acquisition programs are adequate to confirm the operational effectiveness, suitability, vulnerability, and lethality of defense systems in combat use. The Office maintains oversight over the Department of Defense's Major Range and Test Facility Base (MRTFB) and the development of test resources such as instrumentation, targets and other threat simulators, and modeling and simulation infrastructure. DOT&E also exercises direct management and oversight of the CTEIP Program Element 0604940D. The Deputy Director, Resources and Ranges is responsible for the oversight and management of the CTEIP.



DOT&E Organizational Chart

Figure A-1

2. Defense Test and Training Steering Group (DTTSG)

The mission of the DTTSG is to oversee the development of requirements and integration of all training and test range instrumentation and to facilitate the development of a consolidated acquisition policy for training and test capabilities, including embedded test and training capabilities in weapons systems. The DTTSG is chartered to provide direction, policy, and guidance for all DoD development and acquisition programs for hardware simulators, emitters, software simulations, hybrid representations, and surrogates of threat weapon systems. The DTTSG is chaired by DOT&E, and the Deputy Director for Resources and Ranges, DOT&E and the Director, Readiness and Training, Deputy Under Secretary of Defense (Readiness) serve as

the Co-Executive Secretaries. The Steering Group is made up of membership provided from the following offices:

- a. Deputy Under Secretary of Defense (Readiness)
- b. Deputy Under Secretary of Defense (Science and Technology)
- c. Deputy Director, Strategic and Tactical Systems (Developmental Test and Evaluation)
- d. Test and Evaluation Representatives from the Army, Navy, Air Force, and Marine Corps
- e. Training Representatives from the Army, Navy, Air Force, and Marine Corps
- f. Joint Chiefs of Staff, J-8
- g. Defense Threat Reduction Agency
- h. Ballistic Missile Defense Organization
- i. Defense Intelligence Agency
- j. Defense Information Systems Agency

3. OSD Test Investment Coordinating Committee (OTICC)

The OTICC combined the functions of two of the three chartered committees that were originally established under the DTTSG: the Test and Evaluation Resource Committee and the CROSSBOW Committee. The third committee, the Training Instrumentation Resource Investment Committee (TIRIC), remains in existence and is chartered with fostering common development and interoperability with instrumentation used by the training community. The OTICC assists in overseeing the development of infrastructure requirements for the T&E community and discharges its duties primarily through the direct oversight and management of the CTEIP. The OTICC is also responsible for coordinating the working level activities necessary to support threat simulator responsibilities, and this is done through a Threat Simulator Investment Working Group. Similarly, a Target Investment Working Group oversees target development. Two other working groups also report to the OTICC: the Resource Enhancement Project (REP) Working Group and the Test Technology Development and Demonstration (TTD&D) Working Group. The REP Working Group provides working level oversight of the Operational Test subprojects executed under the REP, a function formerly performed by a working group under the auspices of the Operational Test and Evaluation Coordinating Committee, which has been disestablished. Functioning in a similar manner, the TTD&D Working Group exercises working level oversight of the TTD&D Project. The Chair of the OTICC is the Deputy Director, Resources and Ranges, and the CTEIP Program Element Manager serves as the Executive Secretary. Members of the OTICC consist of representatives (O-6/GM-15 level or above) from the following offices and organizations:

- a. Assistant Director, Test and Evaluation Resources, Ballistic Missile Defense Office
- b. Deputy Director, Resources Division, Test and Evaluation Management Agency, U.S. Army
- c. Director of Test and Evaluation and Technology Requirements, T&E Infrastructure, U.S. Navy
- d. Chief, Test and Evaluation Resources and Infrastructure Division, Test and Evaluation Directorate, U.S. Air Force

- e. Marine Corps Operational Test and Evaluation Activity
- f. NCR Liaison Officer, Joint Interoperability Test Command, Defense Information Systems Agency
- g. Director for Special Weapon Technology, Testing Division, Defense Threat Reduction Agency
- h. Training Instrumentation Resource Investment Committee (TIRIC) (Executive Secretary)
- i. Threat Simulator Investment Working Group (Chair)
- j. Director, Joint Program Office (T&E)

4. T&E Executive Agent (T&E EA)

The Service T&E EA was established in 1993 in response to the *1993 Roles and Mission Report of the Armed Forces of the United States*. The mission of the organization is to provide oversight of all Services' RDT&E budgets for Service investments in test capabilities and for streamlining the Services' T&E infrastructure. The T&E EA is organized as follows:

- a. The Board of Directors (BoD). The BoD is composed of the three Service Vice Chiefs of Staff and the Director, Operational Test and Evaluation (DOT&E). The Assistant Commandant, United States Marine Corps participates as a non-voting member. The BoD is chaired by one of the Service Vice Chiefs or the DOT&E on a two-year, rotating basis. The mission of the BoD is to provide corporate guidance for T&E infrastructure management, standards and policy, configuration, and investments. The BoD will foster T&E Reliance by ensuring investments are made at facilities and ranges best suited to support customer testing requirements, with the most cost effective, efficient operation without regard to Service or Defense Agency ownership. The BoD exercises approval authority of T&E infrastructure investment guidance and management policy.
- b. The Board of Directors (Executive Secretariat) (BoD(ES)). The BoD(ES) is composed of the T&E Principals: the Deputy Under Secretary of the Army (Operations Research); the Director, Air Force Test and Evaluation; the Director, Test and Evaluation and Technology Requirements, T&E Infrastructure, U.S. Navy; and the Deputy Director DOT&E (Resources and Ranges). The BoD(ES) reports directly to the BoD and is chaired by the T&E Principal from the same organization as the chair of the BoD. The mission of the BoD(ES) is to lead development of corporate guidance for T&E infrastructure management, standards and policy, configuration, and investments. Acting as the agent for the BoD, the BoD(ES) leads the implementation of Reliance and endorses guidance on T&E infrastructure investment and management policy. The BoD(ES) approves joint T&E requirements and recommends solutions from the needs and solutions process for CTEIP consideration.
- c. The Board of Directors (Executive Secretariat Staff) (BoD(ESS)). The BoD(ESS) is composed of designated representatives from the offices of the T&E Principals. It is chaired by the representative from the same organization as the chair of the BoD. The BoD(ESS) reports directly to and supports the mission of the BoD(ES) and

recommends guidance on T&E infrastructure investment and management policy. Jointly with the Test Resources Advisory Group (see below), the BoD(ESS) also recommends joint T&E requirements and solutions from the needs and solutions process for CTEIP consideration.

- d. Test Resource Advisory Group (TRAG). The TRAG is composed of the Commanding General, Developmental Test Command; the Director of Operations, Air Force Materiel Command; a representative from the Department of the Navy; and the Deputy Director, DOT&E, Resources and Ranges. The TRAG reports to the BoD(ES) and is chaired by a TRAG principal from a Service or organization other than that which provides the chair of the BoD and BoD(ES). The Executive Secretary of the TRAG is the Director, Joint Program Office (T&E). The mission of the TRAG is to implement the policies, decisions, and guidance of the T&E EA, as directed by the BoD(ES). Additionally, the TRAG provides recommendations to the BoD(ES) on the identification of T&E infrastructure requirements and investment priorities. As stated above, the TRAG, jointly with the BoD(ESS), recommends joint T&E solutions from the needs and solutions process for CTEIP consideration.
- e. The Joint Program Office for T&E (JPO(T&E)). The JPO(T&E) consists of Service and DOT&E military, civilian, and contractor personnel and is headed by a Senior Executive Service Director. The JPO(T&E) reports directly to the BoD(ES) chair. As directed by the BoD(ES), the JPO(T&E) facilitates and integrates the development of guidance and policy, manages the T&E infrastructure and investment planning process, and facilitates T&E EA communication.
- f. The T&E Reliance Structure. Ten Reliance teams, one overseeing each of ten test areas, are established under provisions contained in joint-Service MOAs. Reliance Leads for each area are designated to serve as the points of contact for the investment area and are responsible for coordinating all Service resource requirements within the investment area, including developing and maintaining Test Capability Master Plans (TCMPs). The ten Reliance areas are:
 - (1) Air Combat
 - (2) Land Combat
 - (3) Sea Combat
 - (4) Space Combat
 - (5) Common Range Instrumentation
 - (6) Electronic Combat
 - (7) Armaments and Munitions
 - (8) Targets
 - (9) Test Environments
 - (10) Command, Control, Communications, Computers, and Intelligence (C⁴I).

APPENDIX B

JIM PROPOSAL

JIM proposals are to be submitted in the format of a Test Investment Database (TID) Solution. Specific instructions for entering data in the TID are provided in the TID data field descriptors. This appendix is intended to supplement those instructions and provides additional guidance on the content required for a CTEIP JIM project proposal.

ADMINISTRATIVE INFORMATION

Provide a submittal date. If the proposal has been previously submitted, indicate the original submittal date.

Identify the Service or Defense Agency field activity, point of contact, address, telephone numbers and e-mail address.

Identify which of the ten functional areas identified in PEG paragraph 1.3 applies to the proposal.

PROJECT INFORMATION

Need

Summarize the T&E Need(s) (i.e., the test requirement) to be satisfied by the project, to include the acquisition programs to be supported and the time frame in which the capability is required.

Project Description

Describe the proposed capability in terms of specific test requirements, such as increase in testing capacity, increased measurement accuracy or data rate, new threats to be simulated, etc. Quantitative characteristics should be provided if known.

Provide major attributes of the proposed capability, particularly as they relate to the objectives of the CTEIP identified in PEG paragraph 1.2.

Identify the test field activities and location(s) where the proposed capability would be fielded.

Impact to Testing

Provide the impact to DoD testing if need is not satisfied during the determined period. Include any loss of opportunity provided by new technologies.

Alternative Approaches

Discuss known reasonable and feasible alternatives considered in meeting the stated test need. Include cost estimates and explain technical and schedule risks associated with each alternative. Include an overall comparison of the proposed capability versus alternatives considered. Include the results of the initial cost-benefits analysis that lead to the decision to propose the identified capability. The analysis should include rationale for the selection of the proposed capability.

Technical Approach

Provide a description of the proposed design strategy to develop the capability. Provide specific concepts to be used or defined, dependency on other efforts or projects, validations required, and any other action required before final technical decisions are made.

Identify any risk inherent in the approach and assess how it relates to performance, cost, and schedule. Identify any action required to mitigate the risk or for contingencies.

Describe the scope and limitations of the proposal in terms of technical and operational considerations and provide rationale (number and location of prototypes, transportability constraints, security procedures, etc).

Schedule

Provide a milestone schedule representing the plan from project initiation, through Phase I to completion. It is important that this schedule be consistent with planned funding. The schedule should include the following milestones, as they apply:

Phase I

- Project initiation
- Project organization established (e.g., Project Office, IPTs, Committees, etc.)
- TCRD initiated/completed
- LCSP initiated/drafted
- Analysis of Alternatives completed
- Key trade-off studies initiated / completed
- Memoranda of Understanding completed
- Design approach defined
- Phase I completed

Phase II

- Phase II initiated
- Major Phase II contract(s) awarded
- Requirements/design reviews (SDRs, PDRs, CDRs, etc.)
- Fabrication/integration/construction initiated/completed
- Activation / testing initiated/completed
- Initial operational capability (IOC)
- Full operational capability (FOC)

Funding Required

Provide a funding profile by year for the duration of the proposed project. For projects requiring shared funding, identify the amount, source, type, and purpose of the shared funding. Discuss the project impact and consequences if shared funding is not provided in the amount and at the time specified.

Coordination

Identify the organization, agency and individual(s) with whom the proposal was coordinated.

APPENDIX C

TEST PACKAGE DIRECTIVE (TPD) FORMAT

This appendix provides that format that will be used by OSD in preparing and forwarding the TPD to Services/Defense Agencies as direction for developing a test capability. TPDs will contain the following information:

PROGRAM ELEMENT

The Program Element Number for the CTEIP is 0604940D. This number does not change.

TPD NUMBER

The TPD number is unique to the project and the specific TPD. It is a five-part number assigned by OSD, and it imparts specific information regarding the project, including the year the project was initiated, the lead Service, and Functional Area. It is determined as in the following example:

97-A-1-01-9701

- a. 97. Year project was initiated
- b. A. Lead Service initial (A—Army; N—Navy; F—Air Force; D—Defense Agency)
- c. 1. Functional Area (1—Air Combat; 2—Land Combat; 3—Sea Combat; 4—Space Combat; 5—Common Range Instrumentation; 6—Electronic Combat; 7—Armament and Munitions; 8—Targets; 9—Test Environments; and 10—Command, Control, Communications, Computers, and Intelligence.)
- d. 01. Sequential project number within the Functional Area
- e. 9701. Year project was initiated and sequential TPD amendment.

DATE

Date TPD is signed.

FUNCTIONAL AREA

One of the Reliance Functional Areas as described above.

PROJECT NUMBER

The Project Number is a three-part number as determined in the following example:

1-01-A.

- a. 1. Reliance Functional Area (as above)

- b. 01. Sequential project number within the Reliance Functional Area
- c. A. Lead Service/Defense Agency initial)

PROJECT NAME

The project name as specified in other project documentation.

PROJECT DESCRIPTION

This section provides a concise description of the project in terms of the T&E need to be satisfied, operational requirements, and technical characteristics and capabilities.

PROJECT DIRECTION

This section states how the project will be organized and identifies specific project issues and guidance to resolve them.

SCHEDULE REQUIREMENTS

This section provides guidance for the preparation of the project's schedule of milestones.

PROJECT FUNDING

This section provides a funding profile based on the latest approved budget and programming and is provided for planning purposes only. It includes previous funding, budget year plus two, and funding to complete project.

SPECIAL INSTRUCTIONS

The following instructions are to be considered to be standing requirements for all projects and will not be repeated in the TPD. This section will also contain any project-specific instructions and exceptions or expansions to the standing special instructions.

The Project Director will:

- a. Prepare and forward Monthly Reports of actual obligations/expenditures and project status (performance, cost, and schedule). Identify deviations from the baseline with reasons for deviations. These reports are due to the CTEIP Program Element Manager (PEM) 20 calendar days after the end of the month being reported. The format for the report is contained in the CTEIP PEG. The report should be prepared by the Project Director and transmitted electronically. All electronic versions should use Microsoft products, i.e., Excel for spreadsheets and Word for reports. Forward the electronic version of the Monthly Report to the CTEIP PEM or designated recipients.

- b. Maintain a complete historical record of obligations and expenditure data that will depict the financial record for the project.
- c. Prepare and present a Project Status Briefings at the CTEIP Mid-Year Review normally scheduled in April of each year using the format specified in the CTEIP PEG or the review announcement.
- d. Prepare and maintain a documentation trail of requirements. The documentation should specify those requirements for which the project was originally initiated, all subsequent requirement changes (increases or decreases) when approved, and corresponding changes to the project baseline. If requirements change, include a specific section in the PMP summarizing this information in matrix format.
- e. Prepare a current summary level Project Quad Chart and forward to the CTEIP PEM with the PMP update, and/or within 30 days of a major change in program status. The Quad Chart should have the following sections: Basis of Need, Project Description, Programmatic Impact if not Funded, Programs and Technologies Supported, Project Schedule and Funding by Fiscal Year. The Quad Chart should be prepared in accordance with the Joint Project Office (Test and Evaluation) requirement for the Quad Chart for the Needs and Solutions submissions. Submit the Quad Chart in both hard copy and electronically as a Microsoft Office product.
- f. Maintain close coordination/interface with the prime customer(s)/user(s) for the capabilities to be acquired by the project to insure timely understanding of needs, changes in requirements, etc. A summary report of these activities should be part of the monthly report that is forwarded to the CTEIP PEM.
- g. Forward lists of documents containing results of studies, reviews, surveys, etc. conducted in response to this TPD or other CTEIP PEM direction to the CTEIP PEM. Provide copies on request.
- h. Notify the CTEIP PEM of funding issues causing work perturbations (i.e., contract stop work directives) 60 days in advance.
- i. Notify the CTEIP PEM before letting major contract awards (i.e., contracted valued at \$1.0M or greater) to ensure that the contract is within the current funding profile. Notification is to be made in writing and noted in the upcoming events section of the Monthly Report.
- j. Notify the CTEIP PEM in writing within 10 days whenever the following thresholds are breached or projected to be breached within the next 30 days. Breaches projected to occur outside of 90 days should be highlighted in the Monthly Report.
 - (1) Cost changes of 10% for any fiscal year's funding or for the project's total cost.
 - (2) Schedule slips of 90 days or more for milestones in the PMP.

- (3) Failure to meet technical goals established in the TPD or PMP.
- (4) Changes in requirements or project scope that are projected to impact the approved Project Baseline, goals, procurement needs, or resources.

APPENDIX D

PROJECT MANAGEMENT PLAN FORMAT

This appendix provides the format and contents of the Project Management Plan (PMP). The PMP is written and updated annually in response to the annual instructions to the project provided by the Test Package Directive (TPD). The PMP should be considered a living document that provides the technical, management and acquisition approach, organization, funding, and schedule required to obtain the needed test capability. An annex to the PMP describes the cost benefit analyses conducted during Phase I of the project and replaces the formerly-required Test Capabilities Analysis. This annex, the Analysis of Alternatives (AoA), summarizes the analysis of alternative approaches to satisfy the T&E requirement that led to the acceptance of the current development approach. The AoA annex should be updated with the PMP when the development approach changes. The PMP is prepared by the Project Director, coordinated through the Service/Defense Agency OTICC member, and approved by the CTEIP Program Element Manager as the baseline by which the project will be executed. The PMP should be concise but complete and should not exceed 20 single-spaced pages in length, not including the AoA annex.

SIGNATURE PAGE

Date: Date approved by the CTEIP Project Director.

Project Number: As contained in the Test Package Directive.

Project Name: As contained in the Test Package Directive.

OTICC Member for Lead Organization: Name and signature of the OTICC Member for Lead organization.

Project Director: Name and signature, organization, code, phone number, and e-mail address of Project Director.

1.0 PROJECT DESCRIPTION

This section should describe the project in sufficient detail to clearly portray what the project is and what it is to accomplish and must relate to the project description in the TPD. The section addresses the following:

- 1.1. Description.** Provide a short narrative describing the overall project. Address what the project is; its purpose, goals, performance objectives; and the capability that it will provide to the T&E community. Address the T&E shortcoming or test requirement that the capability will satisfy. The description should be consistent with the TPD.

1.2. Need/Requirement for the Project.

- a. Phase I. Refer to the approved Solution and summarize the technical and performance objectives required for the project to be successful.
- b. Phase II. Refer to the approved TCRD and summarize in tabular or matrix format the technical and operational performance thresholds and objective values.

1.3. Technical Approach.

a. Phase I.

- (1) Describe the approach to be taken in developing the required project documentation and the design concept and strategy.
- (2) Design Strategy.
 - (a) Discuss elements of standardization, commonality, interoperability, and life cycle supportability that have been incorporated into the design strategy.
 - (b) Discuss feasibility of using Non-Developmental Items (NDI).
 - (c) Address performance thresholds inherent in the design strategy and how they relate to satisfying the test requirements for new weapon systems.
 - (d) Discuss the feasibility of transporting the capability to other test locations.
 - (e) Address the number of units that are required, the number that will be CTEIP funded, and where all units will be located.
 - (f) Identify the tests to be supported.

b. Phase II.

- (1) Describe major technical efforts to be pursued.
- (2) Include schematics, graphics, and other illustrations to show significant developments and internal/external interfaces. Complex projects should include a third-level architectural diagram containing hardware and software configuration items.
- (3) Discuss how key technical characteristics and performance objectives are being addressed.
- (4) Describe and/or illustrate the distribution of components and elements necessary to achieve IOC and FOC.

2.0 CRITICAL/KEY ISSUES

This section should include a discussion of issues involved in developing and implementing the products of the project. Considerations may include the following:

2.1 Limitations and Constraints. Discuss the following:

- a. Identify technical areas that require verification of feasibility.
- b. Discuss the criticality of the project schedule to meet the known test requirements.
- c. Outline the impact of cost constraints, if any, on the design strategy (Phase I) and capability development (Phase II).

2.2 Other External Factors.

- a. Discuss the dependence of the project on completion of other related efforts, such as separately funded construction, availability of test resources, pending legislation, etc.
- b. Identify environmental issues and actions needed to satisfy requirements (Phase I) and actions undertaken (Phase II).
- c. Discuss the stability of the user community and whether the project can support the projected workload.

3.0 PROJECT STATUS.

- a. Provide a succinct description of the technical status of the project. What has been accomplished? What technical, schedule or cost problems have been encountered, if any? What actions have been or will be taken to resolve the problem(s)? Describe the recovery plan, if appropriate.
- b. If technical or performance requirements addressed in paragraph 1.2 have changed, summarize, in matrix form, the requirements for which the project was originally initiated, (as stated in Paragraph 1.2), the approved requirements changes, and the corresponding changes to the project baseline.

4.0 MANAGEMENT APPROACH

This section describes how the Project Director will allocate resources and manage the project. Include organizational charts and work breakdown structure charts to the third level of indenture, where appropriate. This section should discuss the following:

4.1 Project Organization.

- a. Provide the organization of the Project Office and its echelon in the sponsoring Service or Defense Agency. Discuss the chain of responsibility to OSD.
- b. Indicate the size (full/part time) and composition (rank/grade, responsibilities) of the Project Office staff.
- c. Identify other functional support to the Project Director.
- d. Outline the participation and responsibilities of other Services, Defense Agencies, and users in the management of the project.
- e. Identify and provide the composition of Integrated Product Teams (IPTs), if any.
- f. List the procedures or formal agreements that have been instituted for coordination and resource sharing with other Services, Defense Agencies, and organizations.

4.2 Technical Management.

- a. Include any required trade studies to make design decisions.
- b. Discuss the development of internal and external system interfaces with associated and allied projects and systems under test (SUT).
- c. List procedures for the control of performance baseline.

- d. Discuss critical testing.
- e. List responsibilities and procedures for configuration control and management.
- f. Discuss component and system integration.

4.3 Acquisition Strategy.

- a. List Service/Defense Agency policies or regulations to be followed and any rationale for non-compliance.
- b. Identify any required specific studies or analyses that may impact the acquisition strategy for development or procurement.
- c. Discuss the determination of contracting versus in-house work. Provide rationale.
- d. List contract(s) type, costs, duration, and rationale for selection.
- e. Provide rationale if sole-source procurement will be used rather than competitive procurement.
- f. Identify source selection authority.
- g. Provide plans for making available any Government Furnished Equipment or Government Furnished Materials (GFE/GFM) to contractors.
- h. Outline the approach to contract management (oversight, management, and reporting).
- i. List measures being taken to ensure compliance with DoD Open Systems requirements.

4.2 Cost Control

- a. Identify the mechanism in place to help control and manage costs.
- b. Describe how whether the project is on schedule and within cost will be determined.
- c. Provide the results of independent cost analysis (ICA) (if conducted at the request of the CTEIP Program Element Manager (PEM)).

4.5 Risk Management.

- a. Summarize risk elements and contingency planning.
- b. Discuss the establishment of objectives and methods to continuously assess risks.
- c. Discuss mitigation of risks.

5.0 ACTIVATION AND TEST.

Describe the plan to test, demonstrate, and certify that the capability meets technical and performance requirements. Identify test assets and resources required. Identify range costs to conduct testing, if any. Identify support required that is outside of the project.

6.0 TRANSITION PLAN

- a. Indicate whether acquisition or support management responsibilities for the system will be retained by the initiating organization or transitioned to another organization or agency.

- b. Identify the fiscal year of transition and receiving organization.
- c. Outline the procedures to be used and those responsible for their execution.
- d. Identify and briefly outline the agreement for life cycle support.
- e. Provide estimates for follow-on funding associated with operating, maintaining, and procuring additional quantities of the capability after transition from CTEIP funding.
- f. Detail the planning for and coordination of follow-on funding.

7.0 FUNDING

This section identifies the funding resources required to implement the project and a plan as to how they are projected to be obligated and expended. It includes the following:

7.1 Spend Plan.

- a. Identify CTEIP funding required by fiscal year through project completion.
- b. At a minimum, funding for the following must be identified across all fiscal years:
 - (1) Project management. List all government organizations and contractors.
 - (2) Design/engineering. Identify amounts allocated for design, analysis, test, integration and installation.
 - (3) Fabrication/equipment. Identify amount for hardware and software to be developed or procured.
 - (4) Construction incidental to R&D. Identify if special funding documents are required.
 - (5) Activation. Identify the amounts for test and integration.

7.2 Obligation/Expenditure plan.

- a. For the PMP year and the PMP year plus one provide a forecast, by month, of all obligations and expenditures for the CTEIP funds for each of the fiscal years through the month that funds are planned to be 100% expended.
- b. Provide an explanation of any disproportionate amount to be obligated or expended during any fiscal year.

PMP			PMP plus one		
Month	Obligation	Expenditure	Month	Obligation	Expenditure
October			October		
N month			N month		

Note: Planned obligations and expenditures should reflect cumulative values.

7.3 Shared Funding.

- a. Identify the amount, source, type, and purpose. If none, so state.
- b. Provide the reasons for the shared funding and the results to be achieved from the different funds, including CTEIP funds.
- c. Explain of how the funding from the different sources is integrated into the project plan as well as how interdependency issues maybe avoided.
- d. Identify any at risk funds to include shared development and follow-on procurement.
- e. Describe the impact if shared funding is withdrawn or not available.

8.0 SCHEDULE

This section provides the information required by the Project Director to efficiently schedule all project activities, measure progress, and document slippage and deviations from the TPD guidance.

Include a table that shows for key milestones the original schedule, the current estimate for initiation or completion and the actual date that action was accomplished. Reasons for changes or variation should be discussed.

Milestone	Original Schedule	Revised	Actual	Remarks

Include a milestone chart (not a bar chart) with standard symbols. For projects consisting of multiple systems and/or integration at multiple locations, list applicable milestones by system or location. Maintain key milestones across PMP updates, show slippage, and include estimated as well as actual date of completion.

Major milestones such as the Phase I documentation schedule, scheduled project reviews, delivery of critical resources, completion of external tasks, and major decision points (or others as specified in the TPD) should be included. Examples are listed below:

Phase I

- Project initiation
- Project organization established (Project Office, IPTs)
- TCRD initiated/completed
- Analysis of Alternatives completed
- Key trade-off studies initiated/completed
- Design approach defined
- LCSP initiated/drafted
- Memoranda of Understanding completed
- Phase I completed

Phase II

- Phase II initiated
- Major Phase II contract awards
- Requirements/design reviews (SRRs, PDRs, CDRs, etc.)
- Fabrication/integration/construction initiated/completed
- Activation / testing initiated/completed
- Validation and verification initiated/completed
- Initial operational capability (IOC)
- Full operational capability (FOC)
- Project Final Report

ANALYSIS OF ALTERNATIVES (AoA) ANNEX

Previous issues of the PEG required Project Directors to prepare and obtain approval of a Test Capability Benefit Analysis (TCBA) during Phase I of a CTEIP project. With this issuance of the PEG, an approved TCBA as a separate document is no longer required. However, it is expected that Project Directors will continue to conduct cost-benefit analyses throughout the execution of CTEIP projects. The alternative approaches that were considered in formalizing the project will be documented in the Project Proposal. Instead of submitting a separate TCBA for approval, Project Directors will document the results of their cost-benefit analysis in an Analysis of Alternatives (AoA) annex to the PMP. The initial AoA Annex should be submitted with the PMP just prior to Phase II approval. The AoA Annex should be updated as needed with subsequent PMP updates.

This section outlines the essential elements of the AoA annex to the PMP and provides the criteria to be used by OSD reviewers in assessing the adequacy of the analysis.

1.0 INTRODUCTION

Provide relevant background information, purpose, and scope of the analysis.

1.1 Background

The sponsoring Agency must address the effectiveness of a CTEIP project in terms of cost and capability. This is accomplished by conducting a cost-benefit analysis using a set of alternatives that can meet or exceed the stated need. The AoA will provide CTEIP decision-makers with justification for selecting a course of action, setting priorities, and allocating resources.

- a. Summarize any specific AoA guidance given in the TPD.
- b. Provide details on the specific need that is being addressed and the requirements that are being satisfied. Refer to the approved TCRD.

1.2 Scope

Summarize the approach, the methodology used, and the factors and parameters considered in conducting the AoA.

2.0 ASSUMPTIONS AND CONSTRAINTS

Provide all the assumptions and constraints considered in the AoA, including fiscal, technological, operational, and environmental considerations.

3.0 ALTERNATIVES CONSIDERED

Provide all reasonable and feasible alternatives considered in making the proposal, including existing facilities or systems or modification to facilities or systems being operated by other Services or DoD Components. These may include a combination of existing systems or projects.

4.0 MEASURES OF EFFECTIVENESS

Provide the measures of effectiveness (benefits) based on the performance thresholds and objectives established for the system or facility.

5.0 COST FACTORS

Provide relevant costs considered in the analysis of the alternatives, including all reasonable life-cycle estimates, e.g., Military Construction, Operations and Maintenance, etc. These costs must be treated equally for all the alternatives. The cost data must be accurate and validated, and cost models used must be appropriate for the alternatives. Cost data should reflect past experience for similar activities, be documented as estimates from official documents, and be reproducible. Cost models should be standard models that are documented, and the procedures and techniques of the models should be well known within the cost community.

Cost factors such as the following should be used to determine the cost for all alternatives:

- a. System definition and planning
- b. Development
- c. Systems integration, installation, activation, and test
- d. Facilities
- e. Manpower and operation
- f. Transportation

6.0 DATABASES AND DOCUMENTATION USED

Provide a list of documents, including results of studies, and validated databases related to the project.

7.0 COST-BENEFIT ANALYSIS RESULTS

The results of the analysis should be presented, including all costs and measures of effectiveness for all alternatives. The results of sensitivity analyses conducted should also be provided, showing how changes in performance affect the utility, cost, and/or schedule of the alternatives. Include the criteria used for assessing the alternatives.

8.0 CONCLUSIONS

Present reasonable conclusions leading to the decision(s) contained in the proposal.

9.0 RECOMMENDATION

Provide a recommendation for one of the alternatives to be pursued to satisfy the T&E need that is based upon the information presented in the AoA.

Appendices

Provide appendices, as necessary.

OSD CRITERIA FOR ASSESSING ANALYSES OF ALTERNATIVES (AoA)

OSD assesses each AoA annex using a set of questions. In the interest of affording Project Directors with insight into the criteria against which their AoA annexes will be evaluated, these questions are provided as an enclosure to the Appendix on Program Management Plans.

1. Does the AoA compare at least three alternatives?

The AoA should describe a minimum of three alternatives. One alternative should be the status quo. Another should be the capability being recommended for development. The remaining alternatives should be other technically and operationally feasible means of satisfying the requirement. It is important that each alternative considered is valid, meaning that it will in fact yield a test capability meeting the specified requirements within the prescribed time frame.

2. Does the AoA use the TCRD as the basis for the analysis?

The TCRD sets the characteristics of the needed T&E capability. To be useful, the AoA must be sufficiently comprehensive in its approach and measures of effectiveness to allow one to compare the alternative solutions with respect to each required system characteristic.

3. Does the AoA use a quantitative approach for assessing both benefits and life cycle cost?

Measures of Effectiveness (MOEs) should be clearly defined and each should be assigned a distinct range of values. The MOE weighting scheme should be clearly stated. Standard cost estimating methods should be employed.

4. Is the quantification method used in the AoA equitable across all alternatives?

The analysis used should allow all alternatives to be compared quantitatively on the bases of cost and effectiveness.

5. Does the AoA use a sound method for combining the quantified benefits and costs into a measure that can be used to make programmatic decisions?

The MOEs and cost estimates should be combined to yield an overall measure of cost-effectiveness for each alternative.

6. Does the AoA contain the following information?

- a. Description of analysis approach.

- b. List of assumptions.
- c. Results and conclusions for benefits and costs of alternatives.
- d. Method for equitable comparison.

APPENDIX E

TEST CAPABILITY REQUIREMENTS DOCUMENT

Introduction

This appendix is provided to assist in the preparation of the Test Capability Requirements Document (TCRD). The TCRD is a required document that is completed during the first half of Phase I of a Central Test and Evaluation Investment Program (CTEIP) Joint Improvement and Modernization (JIM) project. The TCRD describes the shortcomings of existing test capabilities, the required capability (thresholds and objectives for both performance and technical parameters), and the anticipated operational and support concepts in sufficient detail to support capability design and development and logistics support planning.

TCRD Coordination/Approval Process

The TCRD is developed by a multi-Service/Agency CTEIP Project Team which forwards the signed TCRD to the Joint Program Office for Test & Evaluation (JPO(T&E)). The JPO(T&E) coordinates the TCRD review through the Test Resource Advisory Group (TRAG) and the Board of Directors (Executive Secretariat Staff) (BoD(ESS)) for review and endorsement to the Board of Directors (Executive Secretariat) (BoD(ES)). Final approval authority for the TCRD is the BoD(ES). The approved TCRD will be forwarded directly to the DOT&E/RR CTEIP Program Element Manager (PEM).

Suggested Format

The format used for the TCRD should be similar to the Operational Requirements Document (ORD) found in appendix II of DoD Regulation 5000.2-R. A suggested format that can be used for the TCRD is shown below:

- Cover Page**
- Signature Page**
- Revision History**
- Coordination Page**
- Executive Summary**
- Main Body**
 - 1. General Description of Need.**
 - 2. Shortcomings of Existing Systems.**
 - 3. Capabilities Required (Thresholds and Objectives).**
 - 4. Logistic and Infrastructure Support Requirements.**
 - 5. Standardization, Interoperability, & Commonality**
 - 6. Schedule Consideration.**
 - 7. Discussion.**
 - 8. References.**
 - 9. Appendices.**

Details of each section are discussed below.

Cover Page. Use the cover page provided in the template.

Signature Page. Use the signature page provided in the template. JPO(T&E) will provide the Project Team with the current signature blocks

Revision History. Revision history allows the reviewers and the Project to be able to track the comments and changes that have occurred as the TCRD has progressed through the coordination/approval process. Recommend using a tabular format that includes the name or organization that provided the comment, the comment, and the action taken.

Coordination Page. Self-explanatory.

Executive Summary. This section will provide a one-page summary of the project to include the key test capabilities to meet the identified testing need(s).

Main Body.

Section 1. General Description of Need. This section provides a general description of the test capabilities needed, identify the acquisition programs that will be supported, and the basis for the need. Describe how the capability will be used to test war-fighting systems.

Section 2. Shortcomings of Existing Capabilities. This section provides a clear statement of the deficiencies of existing test capabilities (DoD, non-DoD, and contractor facilities) with respect to meeting current and planned test requirements. The capabilities required (as detailed in Section 3) should be directly tied to the identified shortcomings. A list of any studies/surveys that identify deficiencies and summary of findings should be provided. Shortcomings should be classified by specific categories (e.g., signature measurement, telemetry rate,...).

Section 3. Capabilities Required.

Detailed system test capability requirements to satisfy the shortfalls identified in Section 2 are provided in this section. This section is the most crucial part of the TCRD in defining the required test capabilities that need to be developed/acquired and from which any benefits analysis will be based. Approval of the TCRD will be based on the accuracy and supporting rationale of the details provided in this section. Capabilities will be defined in terms of performance and technical parameter Thresholds and Objectives. Thresholds and Objectives are values that can be defined in measurable terms (e.g. Target Velocity (m/s), Download Rate (GB/sec), etc.).

The Threshold value is the minimum acceptable value that, in the user's judgment, is necessary to satisfy the required capability. The Objective value represents a meaningful, time critical, and cost-effective increment above the threshold for each program parameter. Use of Tables is encouraged specifying both thresholds and objectives. Appendices should be used as needed. Supporting rationale for the thresholds and objectives values should be provided.

Additional test requirements/constraints (such as security, test processes,...) that are not easily portrayed in terms of Thresholds or Objectives should be identified to ensure instrumentation compatibility and usability by the test ranges.

Note: Because technology is rapidly changing, there sometimes can exist requirements to support new and emerging weapon systems that are not clearly defined in absolute quantifiable terms at the beginning of the acquisition process. Computer-based instrumentation systems (such as those supporting C4I systems) and systems used by a large number of diverse users (such as the development of new architectures and standards) generally have clearly defined initial requirements but whose overall final requirements are broadly defined at the beginning of the acquisition process.

These types of systems can utilize an "Evolutionary Acquisition" approach to provide a well-defined initial system with limited capability followed by a series of enhancements that incorporate planned additional capability. During development of the TCRD detailed requirements (in terms of thresholds and objectives) must be documented for the initial system. These requirements can be progressively refined during execution of the CTEIP program. The TCRD will be submitted for T&E EA approval for the initial system capability. All refinements to thresholds and objectives shall require review by the proper T&E EA review authority established during the initial approval process and approval by the BoD(ES) prior to forwarding to the CTEIP PEM for implementation.

Section 4. Logistic and Infrastructure Support Requirements. This section provides information on the logistic support requirements that will impact design alternatives. This section should discuss logistics requirements in general terms; detailed logistic concepts and costs will be documented in the Life Cycle Support Plan.

Topics to be discussed in this section include:

- Logistics and Readiness (how the developed capability will be incorporated into existing test ranges, proposed logistic support, estimated operations and maintenance cost requirements, reliability, availability, or maintainability requirements).
- Maintenance Planning (planned maintenance concept)

- Infrastructure Support Equipment (range equipment needed to support the CTEIP project).
- Human Systems Integration (personnel requirements, skill levels for operation and maintenance of the instrumentation).
- Computer Resources (hardware and software resources required).
- Transportation.
- Environmental Considerations.
- Other Logistic Considerations.

Section 5. Standardization, Interoperability and Commonality. In accordance with the CTEIP goal to achieve consistency, commonality, and interoperability across the Services, this section should discuss how standardization, interoperability and commonality of hardware/software would support the use of the capability by the Services.

Section 6. Schedule Considerations. Provide a list of programs that will be supported by the developed instrumentation, test technique, or new capability. Include scheduling information and discussion of potential impact to the acquisition program.

Section 7. Discussion. Use this section to provide any additional information believed necessary to convey to the T&E Executive Agent and OSD the required capabilities needed to support current and planned weapons systems testing. Include any supporting rationale/studies complete by the Services to validate required testing capabilities.

Section 8. References. Include a listing of any references used in the preparation of this TCRD.

Section 9. Appendices.

- A. Previous Capabilities.
- B. Future Customers.
- C. List of Acronyms.

The following pages of this Appendix provide a template to be used in the preparation of a Test Capability Requirements Document.

TEST CAPABILITY REQUIREMENTS DOCUMENT (TCRD)

FOR

[insert Project Name here]



xx Month 2000

[Project Director's Name]

phone: (xxx) xxx-xxxx email: name@organization

[Program Office Name]

[Location]

APPROVAL SHEET
TCRD
for the
[Project Name]

OSD direction for the [Project Name] project is documented in Test Package Directive number [xx-x-x-xx-xxxx] dated [x November 200x], Program Element 0604940D, Function Area: [xxxxxxx], Project Number: [x-xx-x].

DEVELOPED BY:

[NAME]
CTEIP PROJECT DIRECTOR

[NAME]
ARMY DEPUTY PROJ. DIR.
PROJ. DIR.

[NAME]
NAVY DEPUTY PROJ. DIR.

[NAME]
AIR FORCE DEPUTY

REVIEWED BY:

DEAN R. ERTWINE
Brigadier General, U.S. Army
Test Resource Advisory Group, Chair
Date: _____

DAVID HAMILTON
Board of Directors (Executive Secretariat Staff), Chair
Date: _____

APPROVED BY:

JOHN T. MANCLARK
Board of Directors (Executive Secretariat), Chair
Date: _____

REVISION HISTORY

<u>Revision</u>	<u>Date</u>
Original Draft	xx Month 200x

TCRD COORDINATION SHEET

<u>Concur/ Name concur</u>	<u>Organization</u>	<u>Signature</u>	<u>Non-</u>
<hr/>			

EXECUTIVE SUMMARY

*[*Insert text here*]*

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1.0 General Description of Need.

1.1 General System Description

*[*Insert text here*]*

1.2 Anticipated Operational Support Concepts

[Example]

The [Project Name] will be available for worldwide operations in support of Army, Navy, Air Force, and commercial aircraft manufacturers' and users' test and evaluation requirements. The system will be located at [location] and will be integrated into the [location] Major Range and Test Facility Base infrastructure and will be self-supporting.

*[*Insert text here*]*

2.0 Shortcomings of Existing Systems

*[*Insert text here*]*

3.0 Capabilities Required

3.1 System Performance Characteristics

*[*Insert text here*]*

3.2 Other Required System Characteristics

*[*Insert text here*]*

4.0 Logistics and Infrastructure Support Requirements

4.1 Logistics and Readiness.

*[*Insert text here*]*

4.2 Maintenance Planning.

*[*Insert text here*]*

4.3 Infrastructure Support Equipment.

*[*Insert text here*]*

4.4 Human Systems Integration.

*[*Insert text here*]*

4.5 Computer Resources.

*[*Insert text here*]*

4.6 Transportation.

*[*Insert text here*]*

4.7 Environmental Support.

*[*Insert text here*]*

4.8 Other Logistic Considerations

*[*Insert text here*]*

5.0 Standardization, Interoperability and Commonality.

*[*Insert text here*]*

6.0 Schedule Considerations.

*[*Insert text here*]*

7.0 Discussion.

*[*Insert text here*]*

8.0 References.

*[*Insert text here*]*

Appendix A.
Previous Capabilities

Appendix B.
Future Customers

<i>Customer</i>	<i>Need Date</i>
<i>F-22</i> (Sample)	<i>4Q FY02</i> (Sample)

Appendix C.
List of Acronyms

APPENDIX F

LIFE CYCLE SUPPORT PLAN FORMAT

This Appendix is provided to assist in the preparation of the Life Cycle Support Plan (LCSP). Completion of a draft LCSP is a required while a Central Test and Evaluation Investment Project is in Phase I of execution. This draft will be approved by the appropriate Service or Defense Agency members of the OSD Test Investment Coordinating Committee (OTICC), i.e., those members whose Services or Agencies are involved in the development and subsequent sustainment of the capability. For CTEIP projects that will be fielded at multiple Services or Defense Agencies or at multiple locations, agreements identified in the LCSP will serve as the Memorandum of Understanding (MOU) between the Services or Defense Agencies.

COVER SHEET

Include the project title; the date approved; and the name, phone number, e-mail address, test activity or command, and address of the lead Service point of contact.

APPROVAL SHEET

List the Project Director and any Deputy Project Directors as submitters and the appropriate OTICC Service or Defense Agency members as approvers.

COORDINATION SHEET

List all organizations involved in logistic support of the project.

EXECUTIVE SUMMARY

Provide a summary, in broad terms, of the capability that will be developed and procured under the CTEIP and how it will be maintained throughout its life cycle. Also summarize roles and responsibilities for providing logistics support, mention any post production cost-sharing arrangements, and identify sources of funds for long term logistics support.

PURPOSE

Provide a general statement on the intent of the LCSP to act as an agreement between all cognizant parties to provide for the orderly logistic support of the Joint Service/CTEIP project once it has been developed. Also state the plan's intent to address the sustainment, maintenance, configuration control, and further technical enhancement of a CTEIP-developed project during its life cycle.

SCOPE

Clearly define the scope of the LCSP, including the test system or capability to which it applies, all participants in its development, the sites at which the capability will be located, and all participants in its sustainment and use.

SYSTEM DESCRIPTION

Provide a detailed description of the system or capability under development, including technical and operational performance objectives. Illustrations may be used if they serve to clarify the technical description.

PROJECT MANAGEMENT STRUCTURE

Describe the organization that will be used for program management during the development phase. Clearly define responsibilities and organizational relationships, including Lead Service, Service of the Project Director, and that of any Deputy Directors. Provide the locations at which the project will be executed, as well as the location of any Joint Program Office.

MAINTENANCE CONCEPT

Describe the maintenance support concept for the system and discuss whether Contractor Logistic Support will be employed and, if so, for how long and under whose auspices. Include the organization responsible for maintenance, when the support is to be initiated, and any other program-peculiar conditions. The description should include specifics such as the number and skill levels of personnel required to maintain the system, any required Military Occupational Specialties, system spares, and any other supply issues affecting supportability should be discussed.

LOGISTICS AND ENGINEERING SUPPORT

This section assigns duties and organizational responsibilities for system logistics support. Include a discussion of:

- a. Initial spares
- b. Support equipment
- c. Maintenance Training
- d. Packaging, transportation, handling, and storage, if applicable

CONFIGURATION MANAGEMENT

Describe the responsibilities for configuration management of software, hardware, and documentation throughout the life cycle of the system. Identify those responsible and outline the procedures to be used.

LIFE CYCLE COSTS

Discuss all identifiable life cycle costs and provide an estimate for such costs through the expected life of the system. Costs may include, but are not limited to:

- a. Logistics
- b. Manpower and personnel
- c. Training
- d. Operation
- e. Maintenance
- f. System improvement and modernization
- g. Support equipment

Costs should be shown in tabular form by cost category for each year the system will be fielded. Provide assumptions used in the development of costs, as well as data sources and documentation used. If the system or capability is replacing an existing system or capability, a comparison between the new system's overall life cycle cost and that of the existing system should be shown.

COST SHARING (as appropriate)

Identify post-production cost sharing agreements, as well as sources of Service funding for operation and maintenance. Any signed agreements should be included as appendices.

DOCUMENTATION AND RECORDS

List documentation and/or records that will be provided for the system, including maintenance manuals, training materials, spares documentation, etc.

MILESTONE SCHEDULE

Provide schedule and milestone information for transition and logistic support in tabular form. This information should parallel the information provided in the Program Management Plan (PMP) that was current at the time of the writing of the LCSP. Milestones should include, but not be limited to:

- a. IOC
- b. FOC
- c. Program Office transition milestones

APPENDICES

Provide Appendices as appropriate. This section should contain any Memoranda of Agreement/Memoranda of Understanding or other support agreements that were signed in conjunction with the preparation of this LCSP.

APPENDIX G

PROJECT DIRECTOR MONTHLY REPORT FORMAT

The Activity/Project Monthly Report is due to OSD on the 20th of each month. The report includes two major sections. The first section details the funds status for each fiscal year's funds received for the program. The funding should begin with the first year this project received CTEIP funds and identify the funds in each of the execution columns of the report. The second section provides information on the current status of the project. This should include major accomplishments and milestones achieved during the preceding month; upcoming events scheduled in the current and following two months; and a brief description of any technical, schedule, or funding problems.

To assure consistency in CTEIP financial reporting the definitions below should be used in completing this report.

Obligations. The amount of an order placed, contract awarded, service rendered, or other transaction that legally encumbers a specified amount of an appropriation or fund for expenditures.

Accrual (Unpaid Expenditures). Cost incurred during a given period representing liabilities (amounts due and payable) for goods and services received, other assets acquired and performance accepted, prior to payment being made.

Disbursement (Paid Expenditures). Charges against available funds representing actual payment as evidenced by vouchers, claims, or other documents approved by competent authority.

Expenditures. Total of accrual and disbursement.

The format beginning on the following page should be used when submitting the Monthly Report.

CTEIP PROJECT DIRECTOR REPORT

FOR MONTH OF _____

PROJECT NAME: _____

PROJECT NUMBER: _____

FUNDS CITATION NUMBER: _____

FISCAL YEAR	FUNDS RECEIVED	FUNDS OBLIGATED	FUNDS ACCRUE D	FUNDS DISBURSED	FUNDS EXPENDED Accr+Disb

MONTHLY ACTIVITIES: Provide a summary description of activities, technical status, test results, etc.

MAJOR ACCOMPLISHMENTS: Include contract awards, milestone achievements, technical successes, etc.

UPCOMING EVENTS: Include for current and following two months all scheduled major accomplishments, milestones, significant meetings, planned contract awards of \$1M or greater, etc.

PROBLEMS: Include description of any technical, schedule and/or funding problems.

FINANCIAL EXECUTION: Include an explanation year if this month's obligations and or expenditures levels deviate more than 10 percent from the forecasts of planned obligations and expenditures for this period..

ACTIONS/DECISIONS REQUIRED: Include requests for actions or decisions and indicate by name (if known) and organization who should provide the required action, resolution, or decision.

PROJECT DIRECTOR: _____ TELEPHONE: _____ E-MAIL: _____

FINANCIAL MANAGER: _____ TELEPHONE: _____ E-MAIL: _____

APPENDIX H

PROJECT FINAL REPORT FORMAT

A final report is required for all CTEIP JIM projects and all Major Subprojects within REP (funded at \$1 million per year or \$5 million over the life of the project) at the completion of CTEIP funding. The last TPD issued to the project or REP subproject will contain a requirement to develop and submit a final report. The report, when completed, is to be forwarded via the Project Director's chain of command to the CTEIP Program Element Manager. The report should contain at a minimum information on the following topics. Additional items of interest can be contained in the report, based on the nature of the project.

COVER PAGE

This page is to include the basic information contained on the project's latest TPD to include the project name, the TPD number, the time period of the project (beginning date and ending date). The date of the final report, the functional area, the project's number, and the project director should also be included.

EXECUTIVE SUMMARY

This section should depict the highlights of the project and be no more than a single page in length. It should state the original requirement for establishing the project, the final capability or product and how it differs from the original proposal (more or less capability), and the driving forces for the change. The summary should identify the cost and schedule for the project and how it changed over the duration of the project. How the capability is being transitioned into the test community should also be outlined.

PROJECT HISTORY AND SCHEDULE

This section should provide a concise but complete chronological list of the major events of the project. This should include technical delays, requirements changes, schedule slippages, reprogramming actions, system and subsystem integration and testing, as well as other significant successes and failures in reaching the final capability. This section should also provide a review of the schedule from the original to the final for each of the major milestones. The reasons for any slippage should be provided.

PROJECT FUNDING

This section should provide a review of the original estimate for project funding and the actual received by fiscal year. The section should state the reasons for the differences.

TECHNICAL RISKS

This section should provide a review of the technical aspects of the project by the major components. It should include how and when the risks were identified, the nature of the risk, and how the issues were resolved.

PROJECT IMPLEMENTATION

This section should provide detail on the basic implementation of the resource into the test community, including where the resource or asset will be located and an current estimate of the annual operating cost. It should identify any MOUs between the services, and provide points of contact for future follow-up.

LESSONS LEARNED

This section should record any lessons learned in the development, management and implementation of this project.

BENEFITS

This section should provide a description of the test benefits that the project provides to the test and acquisition communities. To the maximum extent possible, these benefits should be quantified in terms of cost avoidances, time saved, test efficiencies, etc.

APPENDIX. Include any material that is deemed important to the full understanding of the project and its development and operation.

APPENDIX I

CTEIP ANNUAL MID-YEAR REVIEW PROJECT BRIEFING FORMAT

This Appendix provides a description of the content and the chart format for briefing the important project functions that are addressed at the CTEIP Annual Mid-Year Review. The briefing can be presented electronically or by overhead projector. All presentation materials should be forwarded to the CTEIP Program Element Manager in electronic media prior to the start of the Review. Detailed instructions regarding the electronic format and the suspense date of submission will be provided in the announcement letter for the Review. Twenty paper copies of the briefing are to be available for distribution at the Review.

No information other than that required by this Appendix should be presented in project briefings unless requested by the announcement letter for the Review.

REP subprojects funded at greater than \$1 million per year or \$5 million over the life of the subproject will ordinarily be briefed at the Review and should use these instructions and format, tailored as necessary.

COVER PAGE

Provide project name, project number, and Project Director's office symbol, telephone and fax number, and e-mail address.

OUTLINE

Self-explanatory.

PROJECT DESCRIPTION

(No more than two charts.)

Provide a concise description of the project. Identify the T&E shortfalls, i.e., address what cannot be tested or identify the current test capability that is inadequate. Describe the performance capability and characteristics that will resolve the T&E shortfalls. Identify which test programs will use the capability once it is developed.

On a separate chart, provide a current graphic or diagram that portrays the project or its capabilities.

VALIDATION OF PROJECT NEED

Discuss any changes to the project's need and whether they affect the requirements approved in the Test Capabilities Requirement Document. For those projects where changes have occurred, describe actions taken to satisfy the changed need and the impact on cost, schedule, and performance.

If there are no changes to the requirement or need, it should be so stated.

TECHNICAL STATUS

Describe current status of the project. Provide an assessment of work accomplished to date and the effort undertaken during the current fiscal year.

CURRENT RISKS/PROBLEMS

(No more than two charts)

Identify the risks or problems that are or may impact cost, schedule, or performance. Describe the plan of action that will eliminate or minimize the impact.

MASTER SCHEDULE

Show the project's master schedule from initiation to completion. Connect the beginning and planned end of an activity by a solid line. Use a dashed line from the original end of the activity to the new estimated end date to show slips or extensions of a task. Use solid symbols to show completion and open symbols to indicate open items. Normally the schedule stub items should be the same from year to year. Explain additions to the schedule and deviations from the baseline schedule. Milestones must include IOC, FOC, and dates of transition to Service or Defense Agency funding.

PROJECT FUNDING

The ORIGINAL ESTIMATE is the estimated funding when the project was initiated. CURRENT APPROV is the funding profile as contained in the current TPD. REQUIRED FUNDS is the Project Director's current best estimate of what is needed to complete the project with the current technical content and best estimated schedule. This estimate may not necessarily agree with the CURRENT APPROV funding, and the DELTA REQ is the difference between the two. Use parentheses to indicate a shortfall. Explain the shortfalls and potential alternatives, including a zero growth option. Funding sources other than the CTEIP should be shown.

CURRENT YEAR OBLIGATION STATUS

Show the planned and actual obligations for the current year CTEIP funding. In the ACTUAL/REV line, show most current actual data to date and the current or revised plan for the remainder of the year. If the plan is revised, provide an explanation for the revision.

PRIOR YEAR OBLIGATION STATUS

Show the planned and actual obligations for the prior year CTEIP funding. In the

ACTUAL/REV line, show the most current actual data and the current or revised plan for obligating the remaining funds. If the plan is revised, explain why obligations did not occur as planned.

CURRENT YEAR EXPENDITURE STATUS

Show the planned and actual expenditure status for the current fiscal year. Expenditure data should include accruals. In the ACTUAL/REV line, show the most current actual data and the current or revised plan for expending the remainder of the funds.

PRIOR YEAR EXPENDITURE STATUS

Show the planned and actual expenditure status for the prior fiscal year. Expenditure data should include accruals. In the ACTUAL/REV line, show the most current actual data and the current or revised plan for the remaining funds. If the plan is revised, explain why expenditures did not occur as planned.

UNEXPENDED PRIOR YEAR FUNDS

List all prior year funds, showing total budget and expenditures to date and unexpended funds. Provide a narrative that addresses the expenditure schedule for any unexpended funds.

6. CONTRACT STATUS

(If necessary, use a separate chart for each contract)

Identify current contractors other than Project Office support. Include contract dollar value, type of contract (e.g., Cost Plus Fixed Fee, Cost Plus Incentive Fee, Firm Fixed Price etc.) and period of performance. Discuss contract performance to date. Identify any deviations from planned work, cost, or schedules that will impact project milestone dates and funding.

Identify plans for future contract or contractor support. Provide information on the contracting process, contracting strategy, and key milestones.

Identify any need for prior year funds resulting from contract disputes.

7. CRITICAL/KEY ISSUES

Identify and discuss any problems, current or anticipated, that will affect the project. Include recommendations and a timetable for resolving problems. Identify the decisions that are required and who needs to make the decisions.

The remaining pages of this Appendix provide the format and a sample of a project briefing.



CENTRAL T&E INVESTMENT PROGRAM

FY XXXX Mid-Year Review

PROJECT TITLE
PROJECT NUMBER

LEAD SERVICE

PROJECT DIRECTOR
OFFICE SYMBOL
TELEPHONE/FAX
E-MAIL



CENTRAL T&E INVESTMENT PROGRAM

FY XXXX Mid-Year Review

OUTLINE

- **Project Description**
- **Project Validation**
- **Technical Status**
- **Current Risks / Problems**
- **Master Schedule**
- **Funding**
- **Obligation and Expenditure Status**
- **Contract Status**
- **Critical/Key Issues**



CENTRAL T&E INVESTMENT PROGRAM

FY XXXX Mid-Year Review

PROJECT DESCRIPTION

- **Describe T&E Shortfall(s)**
 - What can't be currently tested
 - What is the current test methodology
- **Project Description**
 - Describe the project in terms of performance capability and characteristics
 - Describe how the project will resolve the T&E shortfall or improve DoD overall test capability
 - Identify the programs or tests the capability will support

(Use no more than two slides. This is not a re-validation nor marketing pitch - just an explanation)



CENTRAL T&E INVESTMENT PROGRAM

FY XXXX Mid-Year Review

PROJECT DESCRIPTION

This slide should be a picture (s) or illustration that depicts and/or illustrates the project



CENTRAL T&E INVESTMENT PROGRAM

FY XXXX Mid-Year Review

PROJECT VALIDATION

- **Discuss changes in the validated need and whether these affected the requirement as documented in the Test Capabilities Requirements Document**
- **Describe the actions taken or necessary to address the new requirement**
- **Describe the impact on cost, schedule, performance, and technical characteristics**



CENTRAL T&E INVESTMENT PROGRAM

FY XXXX Mid-Year Review

TECHNICAL STATUS

- **Technical Status**
 - **Describe current status**
 - **Assess work accomplished to date**
 - **Discuss current year efforts**



CENTRAL T&E INVESTMENT PROGRAM

FY XXXX Mid-Year Review

CURRENT RISKS / PROBLEMS

- **Current Risks/Problems**
 - Describe risks and/or problems
 - » Technical
 - » Programmatic
 - » Financial
 - » Schedule
- **Proposed Solutions**
 - Recommend solution for each problem
 - Describe actions to mitigate risks
- **Impact on Project**
 - Discuss impact if risks or problems are not resolved



CENTRAL T&E INVESTMENT PROGRAM

FY XXXX Mid-Year Review

MASTER SCHEDULE

	YEAR 1				YEAR 2				YEAR 3				YEAR 4				YEAR 5			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
PHASE I																				
TCRD																				
LCSP																				
MOUs																				
PDR																				
PHASE II EMD																				
CONTRACT AW																				
CDR																				
DEVELOPMENT																				
INTEGRATION																				
TRANSITION																				
IOC/ FOC																				
FINAL REPORT																				



CENTRAL T&E INVESTMENT PROGRAM

FY XXXX Mid-Year Review

[PROJECT NAME] FUNDING

CTEIP FUNDING	PRIOR	FY XXXX	FY XXXX +1	FY XXXX +2	FY XXXX +3	FY-XXXX +4	To Complete	TOTAL
ORIGINAL ESTIMATE								
CURRENT APPROV								
REQUIRED FUNDS								
DELTA REQ								

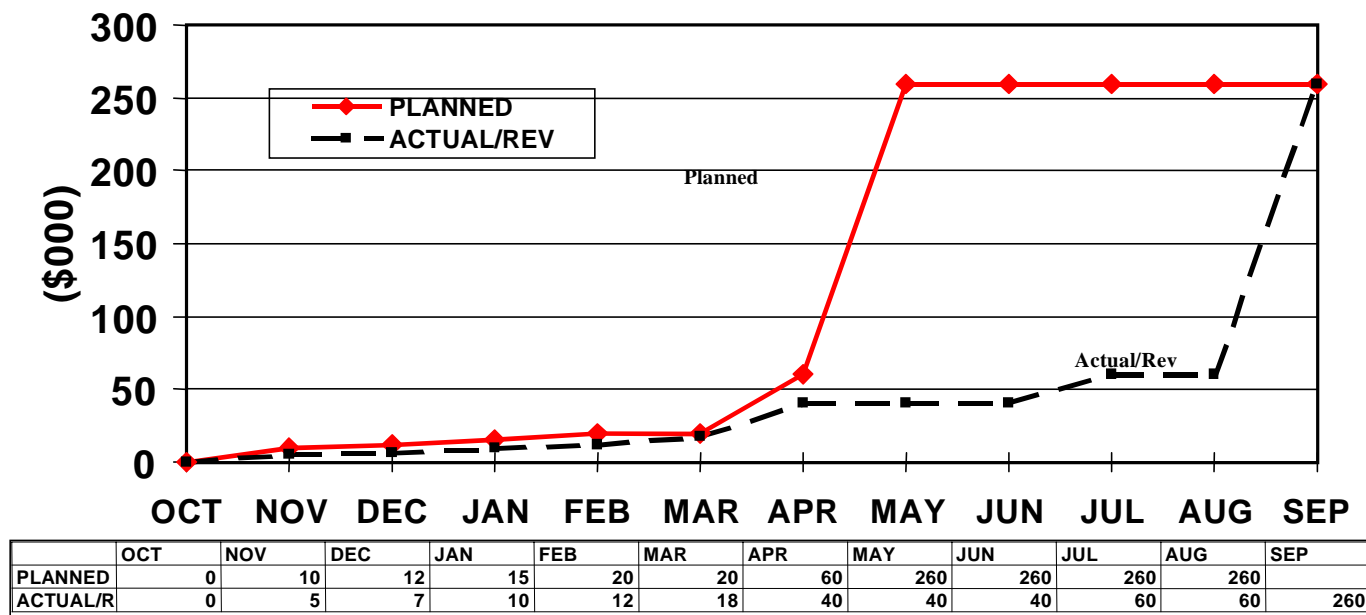
OTHER FUNDING								
CURRENT APPROV								
REQUIRED FUNDS								
DELTA REQ								



CENTRAL T&E INVESTMENT PROGRAM

FY XXXX Mid-Year Review

FY XXXX OBLIGATION STATUS

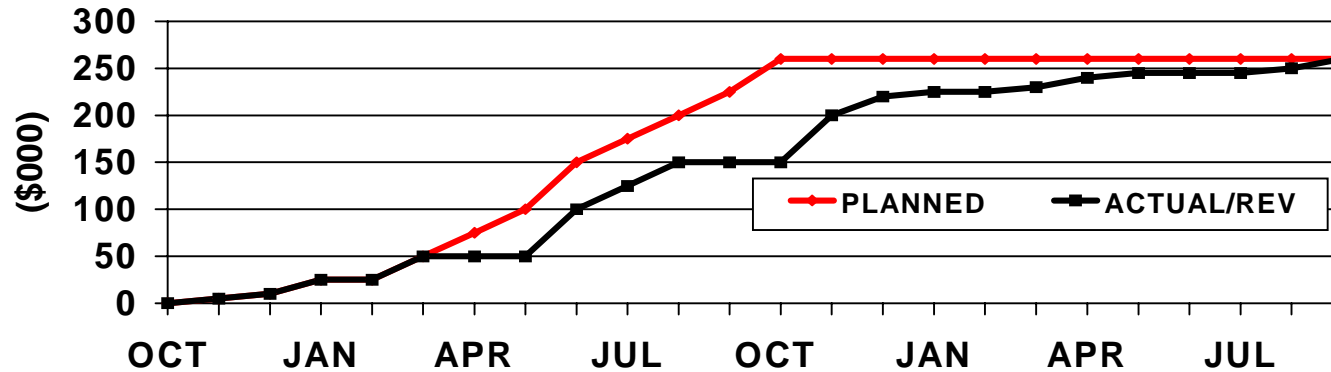




CENTRAL T&E INVESTMENT PROGRAM

FY XXXX Mid-Year Review

FY XXXX-1 OBLIGATION STATUS



	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
PLANNED	- 0	5	10	25	25	50	75	100	150	175	200	225
ACTUAL/R	0	5	10	25	25	50	50	50	100	125	150	150

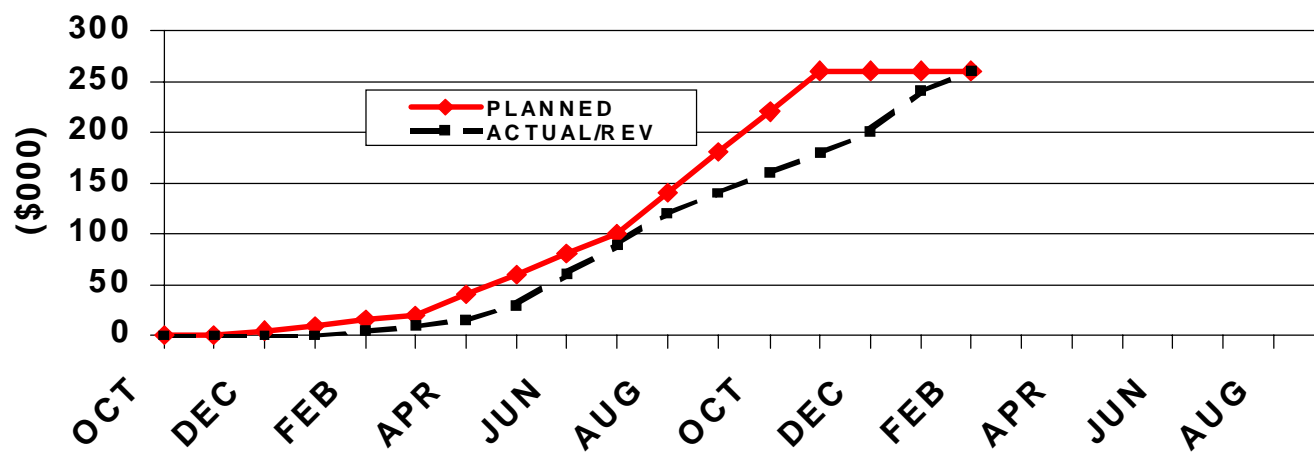
OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
260	260	260	260	260	260	260	260	260	260	260	260
150	200	220	225	225	230	240	245	245	245	250	260



CENTRAL T&E INVESTMENT PROGRAM

FY XXXX Mid-Year Review

FY XXXX EXPENDITURE STATUS



OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
0	0	5	10	15	20	40	60	80	100	140	180
0	0	0	0	5	10	15	30	60	90	120	140

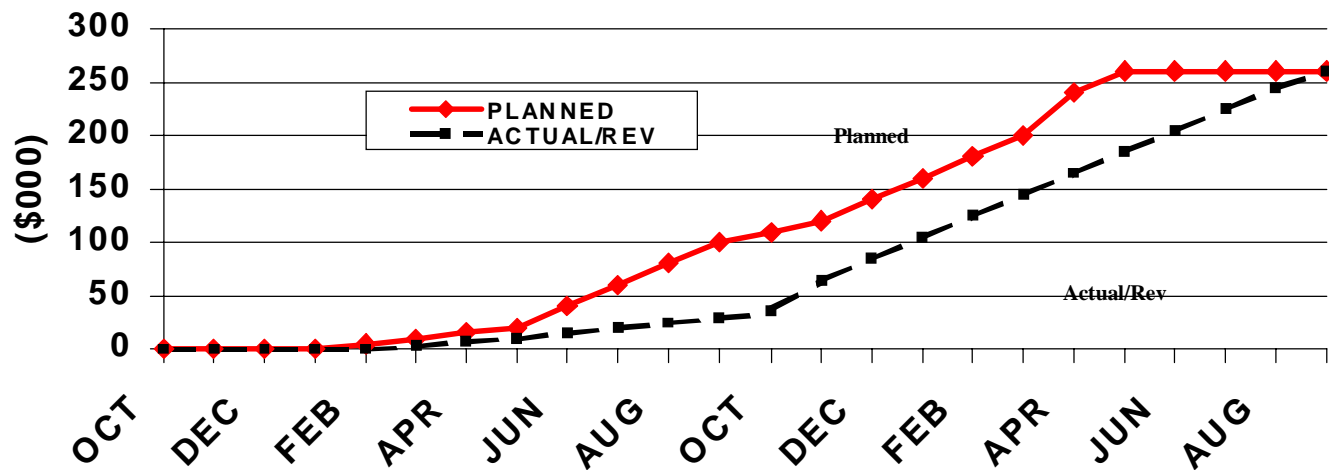
OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
220	260	260	260	260							
160	180	200	240	260							



CENTRAL T&E INVESTMENT PROGRAM

FY XXXX Mid-Year Review

FY XXXX-1 EXPENDITURE STATUS



	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
PLANNED	0	0	0	0	5	10	15	20	40	60	80	100
ACTUAL/R	0	0	0	0	0	3	7	10	15	20	25	30

OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
110	120	140	160	180	200	240	260	260	260	260	260
35	65	85	105	125	145	165	185	205	225	245	260



CENTRAL T&E INVESTMENT PROGRAM

FY XXXX Mid-Year Review

UNEXPENDED PRIOR YEAR FUNDS

FY	Budget	Expended	Unexpended
FYXXXX-5			*
FYXXXX-4			*
FYXXXX-3			*
FYXXXX-2			*
FYXXXX-1			*

*** Provide narrative on separate slide**



CENTRAL T&E INVESTMENT PROGRAM

FY XXXX Mid-Year Review

CONTRACT STATUS

- **Current Contracts**
 - List Contractors, \$ value, type contract, period of performance
- **Contract Performance to Date**
 - Deviation from Schedule
 - Deviation from Cost
 - Impact on Milestone Schedule
 - Disputes/Requirements for Prior Year Funds (Strikes, protects, etc.)
- **Anticipated/Known Future Contract Changes**



CENTRAL T&E INVESTMENT PROGRAM

FY XXXX Mid-Year Review

CRITICAL/KEY ISSUES

- **Current Problems**
- **Anticipated Problems**
- **Recommendations for Resolutions**
 - **Decisions Required**
 - **Help required at OSD/Service HQ level**

ANNEX J

RESOURCE ENHANCEMENT PROJECT PLANNING AND EXECUTION GUIDE

The Resource Enhancement Project Planning and Execution Guide is included in its original format and pagination as Enclosure 1 to this Appendix.

RESOURCE ENHANCEMENT PROJECT



PLANNING AND EXECUTION GUIDE

Revision 2

15 August 2000

**RESOURCE ENHANCEMENT PROJECT
PLANNING AND EXECUTION GUIDE
REVISION 2**

Coordinated By:

Resource Enhancement Project Working Group

Submitted By:

A handwritten signature in black ink, appearing to read "G. Derrick Hinton", written over a horizontal line.

**G. Derrick Hinton
Working Group Chairman**

Distribution Statement B. Distribution limited to U.S. Government agencies only for Administrative and operational use. Other requests for this document must be referred to the Resource Enhancement Project Working Group Chairman.

**RESOURCE ENHANCEMENT PROJECT
PLANNING AND EXECUTION GUIDE
REVISION 2**

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PURPOSE

This Planning and Execution Guide (PEG) provides an overview of the Resource Enhancement Project (REP), its objectives, structure, and management approach. It also describes the responsibilities of the REP Working Group (WG) Chairman, WG Members, and Subproject Managers, who are responsible for planning, managing, and executing operational test and evaluation (OT&E) resources under the REP element of the Central Test and Evaluation Investment Program (CTEIP).

This PEG provides the criteria required for REP subproject nomination and selection and the process by which REP subprojects are evaluated, accepted, prioritized, funded, managed, and executed. It also provides guidelines on the preparation and submission of REP documentation, to include: Quad Chart, Nomination Assessment Report, Obligation and Expenditure Plan, Project Management Plan (PMP), Test Package Directive (TDP), Subproject Management Plan (SMP), Monthly Report, etc.

This Guide will be reviewed by the REP WG on an annual basis. Updates, amendments, or revisions will be coordinated with the REP WG and approved by the REP WG Chairman.

SECTION 1. INTRODUCTION

1.1 BACKGROUND

The centrally managed and funded Central Test and Evaluation Investment Program (CTEIP) implements the multi-Service part of the overall Department of Defense (DoD) Test and Evaluation (T&E) investment strategy and provides for decentralized execution of individually approved projects by the Services/Defense Agencies. The CTEIP funds high-priority, multi-Service T&E requirements. By funding common solutions to similar test needs for the Services and focusing on integrated management of test resources, the CTEIP also minimizes unwarranted duplication of test resources.

One element of the CTEIP is the Resource Enhancement Project (REP). The 1990 Congressional Defense Appropriations language directed that, starting in fiscal year 1991, the funds to support REP be included in the CTEIP Program Element (PE) 0604940D under the fiscal sponsorship of the Deputy Director, Defense Research and Engineering (Test and Evaluation) (DDDR&E (T&E)). A 1992 organizational realignment changed DDDR&E(T&E) to the Director, Test and Evaluation (DT&E), Office of the Under Secretary of Defense (Acquisition) (OUSD(A)). A 1994 organizational change established the Office of the Director, Test, Systems Engineering and Evaluation (DTSE&E), Office of the Under Secretary of Defense (Acquisition and Technology) (OUSD(A&T)) as sponsor. Another realignment took place in 1999, transferring the key test and evaluation functions, including the CTEIP, from OUSD (A&T) to the Director, Operational Test and Evaluation (DOT&E). Under the auspices of the REP, DoD funds operational test (OT) resource requirements whose non-availability for scheduled OTs could introduce high risk in the development and evaluation of new weapon systems and system upgrades. REP funds projects to meet operational test and evaluation (OT&E) requirements that are near term (usually three years or less) and high priority in nature.

1.2 OBJECTIVES OF THE RESOURCE ENHANCEMENT PROJECT (REP)

The overall objective of the REP is to ensure that Service and DoD Agency acquisition programs are provided the resources necessary to test in the most realistic operational environment possible.

REP funds near term OT resource requirements (usually three years or less) and high priority in nature that were not programmed by the program office or covered by the Program Objective Memorandum (POM) cycle submission due to changes in test requirements, scope of testing, etc. The non-availability of these OT resources could introduce high risk in the development and evaluation of new weapon systems and system upgrades. REP provides a rapid response to unforeseen OT&E issues, such as emergent test requirements, new threat developments, and new technologies that may alter/impact test schedules and require the use of test resources that were not planned. Through REP, subject matter experts work together to discuss and determine the best and

most affordable means to resolve OT shortfalls and limitations, to prevent unwarranted duplication of capabilities/assets, to establish cooperative efforts to enhance test efficiency, and identify opportunities for joint development projects.

1.3 STRUCTURE

REP is composed of subprojects that are reviewed, analyzed, and prioritized by the REP WG for submission through the CTEIP Program Element Manager (PEM) to the Deputy Director, Resources and Ranges (R&R). These subprojects are approved by DOT&E, based upon the REP WG inputs and final determination and recommendation of the Deputy Director (R&R), in coordination with the Office of the Secretary of Defense (OSD) Test Investment Coordinating Committee (OTICC). Although REP is funded as a CTEIP project, REP functions are distinct from those of other CTEIP projects.

SECTION 2. MANAGEMENT APPROACH

2.1 MANAGEMENT RESPONSIBILITY

The responsibilities of the REP WG, REP WG Chairman, and Subproject Managers are described in the following sections. The extent of involvement and participation of the OTICC in REP is described in Appendix A of the CTEIP Joint Improvement and Modernization (JIM) Projects (Planning and Execution Guide (PEG)).

2.1.1 REP WORKING GROUP (WG)

The REP WG consists of the WG Chairman (appointed by the Director, Operational Test and Evaluation (DOT&E)) and a primary and alternate representative from the Air Force, Army, Navy, Marine Corps, and the Joint Interoperability Test Command (JITC) Operational Test Agencies (OTAs), Ballistic Missile Defense Organization (BMDO), and Defense Intelligence Agency (DIA). Only REP WG members representing an OTA will have voting rights.

The REP WG will:

- Look at scheduled OTs for test resource shortfalls, identify potential solutions, and bring forward the solutions as proposed subprojects for REP funding consideration.
- Analyze, document, and justify all REP requirements and identify the existence of any additional future test shortfalls that may benefit from the development or acquisition of each proposed REP subproject.
- Serve as liaison with other test resource entities to preclude unwarranted duplication of effort and to enhance efficiency.
- Ensure that the operation and maintenance (O&M) levels have been identified and discussed with the gaining organization.
- Establish firm completion dates for all REP subprojects.
- Represent the interests and approval authority of the Service/Agency OTAs in determining the REP candidates to be nominated and the relative prioritization of the candidates.
- Coordinate with other Service and Defense Agency REP WG Members and Subproject Managers to establish cooperative efforts/investments or identify opportunities for joint development where practical.
- Prioritize subprojects for respective fiscal year (FY) funding and submit a recommended prioritization list for all REP candidates, through the CTEIP PEM and in coordination with OTICC, to the Deputy Director (R&R) for recommendation to DOT&E for approval.
- Review the funding of each subproject, as measured against the current Obligation and Expenditure Plan (O&E Plan), for the fiscal year of interest and report the status to the CTEIP PEM on a monthly basis.

- Challenge all prospective subprojects' abilities to deliver on time and within budget the deliverables identified in submission documents (REP Quad Chart, Nomination Assessment Report (NAR), O&E Plan and any supporting statements, documents, or briefings).
- Oversee, on behalf of the Service/Agency OTAs and all other involved offices, the execution of all subprojects assigned to the Service/Agency, to include the gathering of obligation and expenditure data, forwarding of execution problem reports, and the initiation and follow through of reprogramming actions arising from these projects.

The REP WG Chairman will perform the following activities in support of the REP:

- Direct the operations of the WG.
- Plan, schedule, and chair the REP WG meetings. Ensure that necessary documentation, including the agenda for all REP WG meetings, are distributed in advance of scheduled meetings.
- Coordinate directly with the CTEIP PEM and REP WG Members, as necessary, to provide updated information on REP, to perform routine coordination, and to obtain short-term or detailed guidance related to outstanding WG actions.
- Attend OTICC meetings, as required.
- Establish and oversee special project sub-committees and their activities, as necessary, to examine and resolve specific issues as directed by the CTEIP PEM.
- Develop an overall REP Project Management Plan (PMP) and budget for submission to the CTEIP PEM.
- Ensure the timely preparation, coordination, and dissemination of all required documents and reports (to include the Test Package Directives (TPDs), Subproject Management Plans (SMPs), End of the Year Report, input to CTEIP Annual Report, input to DOT&E Annual Report, monthly status and financial report, and all meeting minutes inclusive of select REP subcommittee minutes).
- Issue the Test Package Directives (TPDs) for REP subprojects that meet the CTEIP threshold for major projects, i.e., REP subprojects that are funded at \$1M or more in any execution year or \$5M over the duration of the subproject.
- Initiate, on an as needed basis, any updates, amendments or revisions to this PEG and ensure changes are properly coordinated with the WG.
- Maintain a REP Automated Management Information System to track/monitor REP activities.

2.1.2 REP SUBPROJECT MANAGEMENT

The day-to-day management of individual REP subprojects is assigned to a Service or Defense Agency field level organization, which identifies a Subproject Manager, an alternate, and a financial point of contact. The designated Subproject Manager will ensure that the REP WG is periodically apprised of subproject technical and financial status in accordance with the guidelines set forth in this guide.

In-process management of individual REP subprojects may be assigned to a field activity for execution. For all REP subprojects, a Subproject Manager is identified by the Service or Defense Agency to execute his/her specific subproject within the context of the annual REP PMP. The responsibility and authority of the Subproject Manager is determined by the acquisition directives of the Service or Defense Agency appointing the Subproject Manager, and as appropriate, by the overall guidance contained in this guide, the annual REP PMP, the TPD, and the approved SMP. The Subproject Manager will perform the following activities:

- For subprojects meeting the CTEIP \$1M/5M threshold, prepare and submit a SMP within 60 days from approval of the TPD.
- Report any breach or projected breach/deviations to the thresholds that will impact costs, funding, schedules, performance, and requirements. Submit an updated/revised Quad Chart and an O&E Plan within 30 days of a reportable breach or program adjustment.
- Conduct subproject reviews in accordance with Section 4.5.
- Submit monthly status reports and other financial, technical, and programmatic reports described in Sections 4.3.4, 4.3.5, 4.4, 4.5, 4.6, 4.8, and 4.9 of this PEG. Notify the REP WG Chairman, through the appropriate REP WG Member, of any funding issues that may cause work perturbations (e.g., contract stop work directives) 60 days in advance of occurrence.
- Notify the REP WG Chairman before letting major contract awards (\$1M or over) to verify that the contract is within the funding profile. (This could be done through electronic mail, correspondence, or telephone call.)
- Provide lists of documents containing results of studies, reviews, surveys, etc., as required.
- Maintain a close coordination/interface with the prime customer(s)/user(s) for the capabilities to be acquired by the subproject to ensure timely understanding of needs, changes in requirements, etc.

All required reports and information will be submitted to the REP WG Chairman through the appropriate REP WG Member.

2.2 MANAGEMENT INTERFACE

Normal communications concerning REP subprojects flow through the CTEIP PEM to the REP WG Chairman, to the REP WG Members, and down the respective chains of command to the Subproject Managers in the field. Likewise, communications will flow up the chains of command to the CTEIP PEM.

2.3 COORDINATION ON REP THREAT RELATED SUBPROJECTS

All REP threat related subprojects will be coordinated with the Threat Simulator Investment WG and/or the Targets Investment WG, as appropriate, to determine if any unnecessary duplicative efforts or capabilities are being developed and whether there are DOT&E validation processes that must be followed. Coordination will be initiated by the REP WG Member after the submission of the subproject for REP funding consideration and prior to its acceptance as a valid REP subproject candidate. The REP WG Member will provide the Service/Agency representative on the appropriate working group with a copy of the REP quad chart and an expanded subproject description that details the threat capability to be simulated/emulated, along with identification of the source of the requirement. A briefing to the appropriate WG may be required to further describe and discuss the proposed subproject. The Chairman of the Threat Simulator Investment WG and the Targets Investment WG or their representatives will be invited to attend REP WG meetings or briefings when the proposed subprojects are being discussed and reviewed.

The result of the coordination will be documented by a memorandum signed by the Chairman of the Threat Simulator Investment WG or the Targets Investment WG. The memorandum will address the duplication question, with a justification for continuing the subproject when duplication is warranted. The memorandum will also address the need for validation and whether a formal memorandum of understanding or similar instrument is required. The result or the status of the coordination must be summarized and referenced in the subproject NAR which is prepared as part of the candidate subproject submission.

SECTION 3. SUBPROJECT NOMINATION AND SELECTION

3.1 GENERAL

OT&E planning starts early in the weapon system acquisition cycle. For example, the preliminary Test and Evaluation Master Plans (TEMPs) for Major Defense Acquisition Programs (MDAP), Acquisition Category (ACAT) ID and IC, are submitted to OSD prior to the Defense Acquisition Board (or Committee) Milestone I review. These preliminary TEMPs will have estimated key OT&E resource requirements to the degree known. As system acquisition progresses, preliminary test resource requirements are reassessed and refined. Subsequent TEMP updates reflect changed system concepts, resource requirements, and/or threat assessments. Resource shortfalls that identify significant OT limitations should be discussed in the TEMP or other test planning documentation with planned corrective action outlined, as per DoD 5000.2-R.

Subprojects submitted for consideration as REP candidates will typically be supporting scheduled OT&E efforts for which planning is reflected in an approved TEMP or other approved test planning documentation. Periodically, DOT&E adds OT requirements to the Service's OT&E programs. Resources to support these requirements are normally not provided. The resultant shortfall is a prime candidate for REP funding consideration.

The REP WG will support the DoD OT&E process through identification of OT test asset shortfalls that pertain to specific (planned) OTs. In support of that activity, the REP WG will undertake a formalized review and analysis of identified REP nominations on an annual basis.

This section discusses the subproject selection process, which includes analyses of subproject information, criteria and guidelines for candidate acceptance, voting process, and the development of the proposed REP recommendation list for a given fiscal year.

3.2 REP SUBPROJECTS IDENTIFICATION AND APPROVAL PROCESS AND SCHEDULE

An overview of the REP Subproject Identification and Approval process is provided in Figure 1. As shown in this figure, near term OT&E resource needs are nominated for inclusion in the REP on an annual basis according to the timeline depicted in Table 1. Although nominations may originate from the Service and Defense Agency representatives, only REP WG voting members can submit subprojects for REP funding consideration. BMDO and other DoD Agencies (non-OTAs) must submit subproject nominations for REP funding consideration through their cognizant component OTA. In the event that BMDO and other non-OTA nominated subprojects do not receive sponsorship from a cognizant component OTA, DOT&E may function as an advocate and sponsor their submission for REP funding consideration. All nominated subprojects will be reviewed, analyzed, and prioritized by the REP WG. The REP WG will develop

a subproject priority list for submission and recommendation through the CTEIP PEM to the Deputy Director (R&R). Based upon REP WG inputs, the Deputy Director (R&R), in coordination with OTICC, will make a final determination and recommendation to DOT&E on which subprojects are to be approved and included in the REP for a given fiscal year. The list of subprojects approved by DOT&E will become the approved REP for that given fiscal year. The CTEIP PEM will release funds through the REP WG Chairman to the designated REP Financial Manager who will distribute the resources based on the approved list. The REP WG Member will be responsible for monitoring the technical and financial aspects of his/her Service's / Defense Agency's REP subprojects.

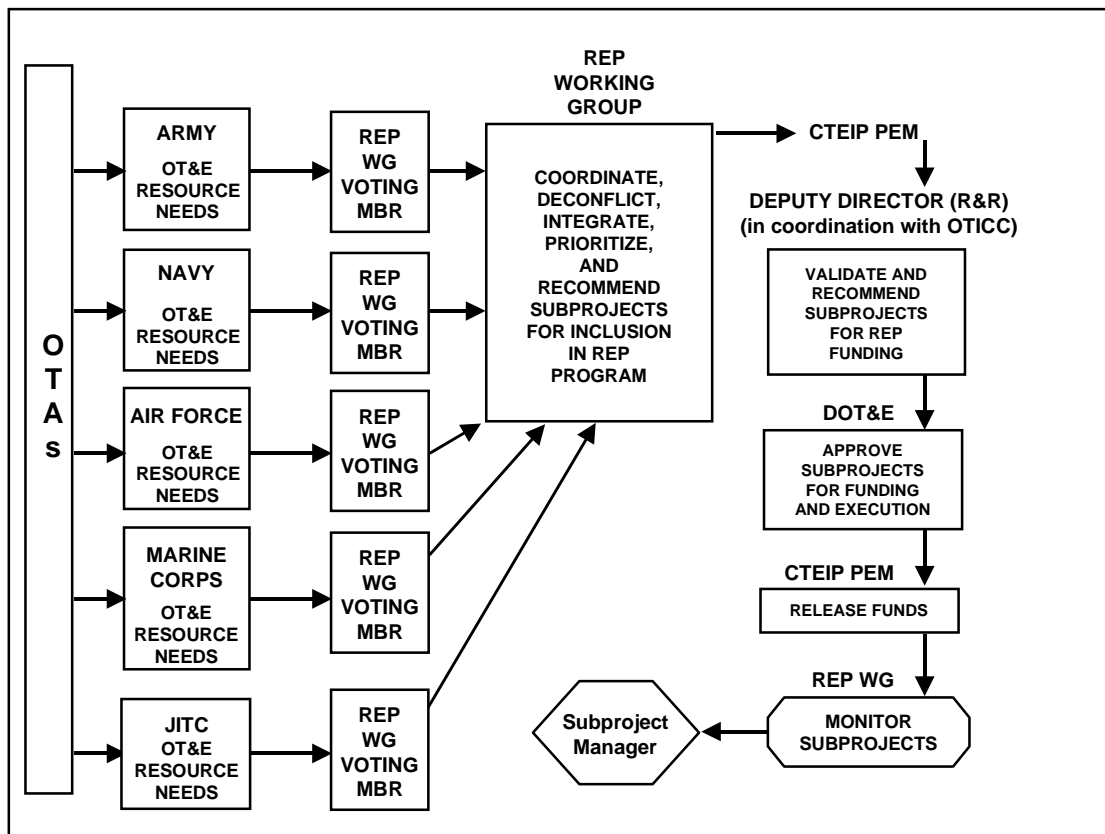


Figure 1. Overview of REP Subproject Nomination and Approval Process

ACTIVITIES	1QTR			2QTR			3QTR			4QTR			1QTR →			
	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J
Validate Critical OT Shortfalls	△					△										
Submission of Quad Charts, NAR, O&E (Continuing Subprojects)							△									
Submission of Quad Charts, NAR, O&E (New Starts)								△								
Review Documentation - WG							△	△								
Brief Proposed Subprojects - WG								△								
Acceptance of Subprojects - WG								△								
Review and Prioritize Subprojects - Service / Agencies									△	△						
Prioritize Subproject and Submit to CTEIP PEM - WG											△					
Validate Priority / Identify / Submit List of Subprojects to Receive Funds to DOT&E - Deputy Director (R&R) in coord. with OTICC												△				
Review / Approval - DOT&E												△				
Budget Approval / Release of REP Funds													△		◇	
Issuance of REP TPD - CTEIP PEM													◇			
Prepare REP PMP&D / Issue TPDs to Subprojects (funded at 1M or 5M over life of project)- WG Chairman													△	◇		
Prepare/Submit/Approve SMPs - WG														△		◇
Oversee Subproject Execution - WG													△			→

Table 1. Subproject Identification and Approval Schedule

3.3 SUBPROJECT NOMINATION AND SELECTION PROCESS

Nominations for REP funding will be initially screened by the respective REP WG Voting Member before they are submitted to the REP WG Chairman. Each proposed subproject will be analyzed to determine if it can be executed with the funding requested and the time projected, and can meet performance requirements to support the objectives identified as needed to satisfy the OT shortfall/limitation.

Each nominated subproject will be briefed to the WG. Any questions or issues raised by the WG must be addressed and resolved prior to the subproject's acceptance. Each candidate should meet the criteria and conform to the guidelines provided in Sections, 3.4, 3.5, 3.5.1, 3.5.2, and 3.6. The subproject must be accepted by the majority of the WG to be considered as candidate for REP funding.

A REP subproject Quad Chart, along with the NAR, O&E Plan, and an estimate of O&M support required (when applicable), will be developed and submitted as part of the request for consideration for REP funding by their respective REP WG Member. Incomplete or inadequate documents may serve as grounds for the rejection of a candidate subproject.

The Quad Chart, shown in Figure A-1 of Appendix A, is the key management document for the REP subproject. The principal individuals and organizations that will be involved in the execution of the subproject are identified in the Quad Chart. This document will also provide a detailed subproject description, the constraints and impacts

that establish the criticality of the subproject, the OTs to be supported, milestones and schedule, sources of funding, and the funding stream. The WG will use the Quad Chart to determine if proposed subprojects meet the requirements for REP approval and funding. Guidance for Quad Chart preparation is found in Appendix A.

The NAR, shown in Figures B-1 and B-2 of Appendix B, documents the results of the analysis completed by the REP WG to determine if a proposed subproject meets the criteria for REP funding. The NAR is not a prioritization tool; however, the data will be considered in the REP final subproject rank-order decision (see section 3.7). Guidance for NAR preparation is found in Appendix B.

The O&E Plan, shown in Figure C-1 of Appendix C, provides essential information regarding the obligation and expenditure planning for funds provided to a given subproject. The O&E Plan identifies for a specific fiscal year how the subproject plans to obligate and expend that fiscal year's funding. The REP WG will review the obligation and expenditure to determine if the proposed spending supports the planned schedule and subproject completion. O&E Plan preparation guidance is found in Appendix C.

Documentation for REP subprojects to be funded on a multi-year basis must be updated and resubmitted each fiscal year to be considered for continued funding. The subproject description in the Quad Chart must be updated to describe the proposed effort/task for current year funds. The O&E Plan must reflect the spending plan for the required current year funding. The NAR must be updated as necessary.

Appendix D provides the list of activities and events to be followed in the submittal and subsequent execution of the REP subproject.

3.4 CRITERIA REQUIRED FOR CANDIDATE ACCEPTANCE

Each Service or Defense Agency new start subproject candidate will be briefed to the WG by the respective REP WG Member or Subproject Manager. The briefing will address the following topics:

- Subproject Description:
 - Description of effort to be funded by REP funds.
 - If part of a larger project, a brief description of the overall effort.
 - Detailed description of effort to be supported by FYXX funds.
 - Justification if more than one system will be developed/procured using REP funds.
 - Justification and rationale why the subproject should be funded by REP.
 - Indicate why test capability was not anticipated and planned for.
 - Indicate if it is an emerging threat/change in intelligence assessments, a new technology, or change in programs/testing requirements.
 - Illustration or picture that depicts the subproject

- Shortfall/Limitation:
 - Documented shortfall and critical operational issues that can not be resolved. Description of what cannot be tested or description of the current test methodology that is inadequate.
 - List of documents that identify the shortfall/limitation.
- Impact If Not Funded:
 - Impacts to the systems under test (SUT) if REP funds will not be provided.
 - Description of the impact to the acquisition programs and milestone decisions.
- Technical Approach:
 - Description of how, what, and where the capability will be developed, including schematics and illustrations, if available.
 - Description of whether completion of subproject is dependent upon availability of other capability/projects or GFE/GFM.
 - Description of how the subproject will resolve the T&E shortfall.
- Operational Tests to be Supported:
 - List of programs and OTs to be supported, with their Acquisition Category, test type, and test date.
- Payoff/Benefits:
 - Description of the benefits that will be realized once the capability is developed e.g., multi use, cost avoidance or savings, risk reduction, etc.
- Management Approach
 - Government organization/contractor who will be developing capability
 - Description of the In-house effort and contractor effort (if known).
- Coordination:
 - Coordination with other Service/Agency/Organization and results.
 - If threat related, status of coordination with the Threat Simulator Investment or Targets Investment WGs.
 - Coordination with gaining activity that will sustain the capability and provide the O&M funding.
- Funding:
 - Monthly O&E plan to forecast how funding will be obligated and expended.
 - Spend plan, addressing all fiscal years of proposed funding.
 - Funding profile and identification of other sources of funding, the amount provided, and the purpose for the funds.
- Schedule:
 - Complete schedule of activities, including significant milestones from subproject initiation to achieving operational capability.

The respective WG Member or Subproject Manager will brief each continuing subproject candidate to the REP WG for funding consideration. The briefing will address the following topics:

- Subproject Description:
 - Overall description of subproject.
 - Effort to be supported using FYXX funds.
- Subproject Status:
 - Subproject current status (technical assessment of where the subproject currently stands), including any deviation from scope of work proposed in the previous year, major procurement, significant milestones achieved, tests completed, and work in progress.
- Funding:
 - Current O&E (actual) status for previous year(s).
 - Proposed O&E (Spend) plan for FYXX.
 - New funding profile if changes were made.
- Schedule:
 - Complete schedule of activities. Previous year(s) schedule must be annotated to show activities and milestones that have been achieved.
 - Description of any change/deviation from previous year schedule with rationale for change.

The WG will evaluate subproject nominations for the funding support under the REP based on the criteria and guidelines listed below. These criteria and guidelines impact the findings of the suitability of the candidate subproject to receive REP funding, and, once the candidate is accepted, impact the prioritization of the accepted candidate. The criteria and guidelines are depicted to identify their general impact on each phase of candidate acceptance and subproject prioritization.

Candidate subprojects submitted for funding consideration are required to meet the following criteria in order to be accepted as a REP subproject.

- The subproject may not require more than three fiscal years of REP funding.
- The subproject must resolve a documented OT shortfall within the next three years from subproject start. Subprojects nominated for inclusion in the REP should solve a test resource shortfall for a specific OT. A follow-on operational test and evaluation (FOT&E) that addresses issues not fully addressed in an initial operational test and evaluation (IOT&E) is supportable when the FOT&E supports a milestone or development decision. FOT&Es that have as a major thrust the support of tactics and training efforts are not supportable by REP.
- The identified shortfall must be consistent with formalized OT planning as reflected in the approved TEMP(s) for specific systems or in other approved formal OT&E planning source documents. Whenever possible, the TEMP-documented shortfall should be cited by direct reference.

- The subproject must support a milestone or development decision on a system (to include major upgrades) within the next five years.
- If the subproject can reasonably be considered as duplicating an existing capability, evidence must be provided that proves that the duplication is reasonable and warranted, or that the potential duplication concern has been addressed. [For example, in the event that a dense signal environment capability is proposed where another exists, these may reasonably be seen as duplicative. Evidence must be provided that would either prove the need for duplication to be acceptable (e.g., workload projections for the two facilities, duty cycle/power/bandwidth shortfalls in the existing asset, mobility difficulties with the existing asset, etc. or the capabilities provide similar densities, but differs in signal fidelities; the capabilities provide similar fidelities, but cover different frequencies; etc.). In all such cases, the test requirement must be part of the evidence to prove that the potentially duplicative capability is required to resolve the OT shortfall.]
- The subproject must have a firm completion date prior to the first OT need date.
- The subproject must be executable as depicted in the submission documents. [Note: It is the responsibility of the submitter to depict all sources of funding required to support the development or acquisition of the proposed capability.]

3.5 PROGRAMMATIC FUNDING GUIDELINES

While REP is designed to resolve OT shortfalls, other selection considerations exist. These REP funding guidelines are examined during the review of candidates to determine whether REP funds can be satisfactorily used within these programmatic guidelines:

- REP funds may only be used to support efforts that occur between the generation of the requirement and the initial installation and checkout of the equipment. REP funds may not be used to fund the conduct of the supported OTs or for O&M costs that occurs after initial installation.
- REP funds may not be used to fund the manufacture or procurement of multiple copies of a capability unless specifically required to resolve documented OT shortfall. (Such situations will be considered for exception upon request by the REP WG Member and reviewed for suitability by the REP WG.)

3.5.1 FUNDING OF FOREIGN MATERIAL UTILIZATION

REP will consider funding the transport, instrumentation, integration, and characterization of foreign materiel in those cases where an OT shortfall exists and the asset is included in a Service or OSD list of assets to be acquired.

3.5.2 FUNDING OF REP THREAT SIMULATOR SUBPROJECTS

REP will consider funding the development of threat simulators that are not Acquisition Category (ACAT) III programs (e.g., open-air, Emitter, Receiver, Processor threat simulator, etc.).

3.6 OTHER GUIDELINES FOR CANDIDATE ACCEPTANCE

In addition to the above criteria, each candidate must address the following:

- For candidate subprojects requesting REP funds to augment a portion of a larger effort, the following items must be addressed:
 - all other sources and levels of funding, level of confidence that the other funding is budgeted and will be forthcoming, and impact to overall project if REP funds are approved and other funding is reduced or withdrawn
 - exactly what the REP funds will accomplish or contribute to the overall project
 - any future plan for enhancement or upgrade to the proposed capability.
- Coordination addressing O&M support must be completed with the gaining organization prior to submission to the REP WG Chairman. Since O&M support is generally required for all REP assets, the organization that will ultimately receive the developed capability must be notified of the intent to develop that capability before funds are provided. This requirement exists to ensure that REP does not deliver an unexpected asset requiring out-year maintenance.
- For threat related candidate subprojects, coordination must be initiated with either the Threat Simulator Investment or the Targets Investment WGs, whichever is most appropriate, prior to its acceptance as a valid REP candidate.
- Coordination with OTA Commanders must be accomplished prior to submission to the REP WG Chairman.
- The nomination package for the subproject must be provided in complete form prior to or at the time of submission to the REP WG Chairman. This nomination package will include the Quad Chart, NAR (pages 1 and 2), and O&E Plan for the proposed capability.

3.7 FACTORS CONSIDERED DURING PRIORITIZATION

While every subproject proposal addresses numerous issues, the REP WG is required to determine those subprojects that are "best for the United States" and to prioritize those candidates ahead of all others. Doing so requires a detailed look at each subproject, the OTs being supported, the Service or Defense Agency commitment to funds, as well as other pertinent parameters or factors. Although subprojects are not required to conform to all of the guidelines stated below, these guidelines will be used to determine the relative priorities of the candidate subprojects for each fiscal year:

- Does a multiple Service or Defense Agency requirement exist for the capability?

- Is the equipment to be developed standardized, where practical, for use by all Services and Defense Agencies?
- Is the capability mobile and/or transportable?
- Is the subproject low in technical risk?

3.8 REP WG PRIORITIZATION AND VOTING PROCESS

Each Service and Defense Agency will generate an individual, prioritized list of proposed REP subprojects for the fiscal year under consideration. The REP WG Chairman will request each WG Voting Member to identify their Service or Defense Agency's highest priority subproject along with its budget (exclusive of out-year funding requirements). The REP WG Chairman will then request the Voting Members to cast a vote for any of the subprojects nominated by the other Services or Defense Agencies as the best candidate subproject. The Voting Members will vote to determine priority on the basis of "Best for the United States" (i.e., the subprojects deemed best for the United States, regardless of Service or Defense Agency involvement). The REP WG Chairman then tallies the votes and assigns the top priority to the majority recipient. The REP WG Chairman will resolve issues in the event of tie and cast the tie-breaking vote. The Service or Defense Agency receiving the majority of the votes will then offer its next highest priority subproject for consideration. The cycle continues until all proposed subprojects have been prioritized.

REP WG Members representing the OTAs will be allowed to vote even though they have not presented any subproject candidates. Under no circumstances will any WG Voting Member be permitted to cast more than one vote during any single prioritization round. WG Voting Members cannot vote for their own Service or Defense Agency subprojects nor will they be allowed to delegate a vote to a support contractor or other Service/Agency. BMDO and other non-OTA Agencies will not be allowed to cast a vote during the prioritization voting process, even though they are active participants in the reviews of subproject candidates. In the event that a Service or Defense Agency representative declines to cast a vote, the process will continue without their input. The tie-breaking process will be used when necessary to determine the subproject that is to be given the majority vote.

Example:

The Army prioritizes A1, A2, A3, etc. Similarly, the Air Force prioritizes its subprojects AF1, AF2, AF3, etc., the Navy selects N1, N2, N3, Marine Corps prioritizes M1, M2, M3, etc. and JITC selects J1, J2, J3, etc. Each Service/Agency offers its highest priority subproject for consideration:

A1	N1	AF1	M1	J1
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The votes are taken and tallied for the subprojects with each Service and JITC selecting between those offered by the others:

A1	N1	AF1	M1	J1
Navy vote	Army vote Air Force vote JITC vote Marine Corps vote			

As a result, the top priority REP subproject is "N1". The Navy then offers its next highest priority subproject for consideration and the voting continues.

A1	N2	AF1	M1	J1
Navy vote Air Force vote JITC vote	Army vote Marine Corps vote			

Now, the Army A1 subproject receives the second priority, and the process repeats until all Service and JITC candidate subprojects are prioritized.

3.9 DEVELOPMENT OF THE REP SUBPROJECT PRIORITY LIST

Based upon the results of the WG prioritization voting process, a subproject priority list will be developed by the WG for submission through the CTEIP PEM to the Deputy Director (R&R), in coordination with OTICC. Based upon the completed analyses, the recommendations of the REP WG, and insight/knowledge of DoD-wide OT issues, the Deputy Director (R&R), in coordination with OTICC, will make a final determination and recommendation for DOT&E approval.

3.10 REP FUNDED SUBPROJECTS

The approved subproject priority list for a given fiscal year is the basis of REP funds distribution. Funds released by the CTEIP PEM, through the REP WG Chairman, for REP execution will be distributed according to the approved subproject priority list until all funds are distributed. The Subproject Managers for REP funded subprojects must be able to obligate all funds by the end of the fiscal year and expend funds according to the approved O&E Plan.

3.11 OUT-OF-CYCLE NOMINATIONS

The REP WG recognizes that there are unforeseen OT&E issues, such as emergent test requirements, new threat developments, new technologies, etc., that may alter or impact test schedules and require the unplanned use of test resources in any given year. In order to respond to such immediate needs, the REP WG will consider out of cycle REP nominations at any time during the year. Out of cycle REP nominations will be submitted and processed as follows:

- (1) Requirer or prospective executing activity submits a full nomination package (Quad Chart, NAR and O&E Plan) to the WG Member representing OTA.
- (2) After coordinating with and obtaining concurrence from the appropriate Service or Defense Agency OTICC Principal, the WG Member requests the REP WG Chairman allocate time at an upcoming REP WG meeting to address the special funding request.
- (3) The REP WG reviews the request, determines relative priority, and agrees to a recommended course of action to be presented through the CTEIP PEM to the Deputy Director (R&R), in coordination with OTICC, via the REP WG Chairman.
- (4) If the request is received before the REP PMP is finalized, the REP WG will review the request, determine priority considering anticipated funding, and re-prioritize the candidate subprojects with a recommendation for action through the CTEIP PEM to the Deputy Director (R&R), in coordination with OTICC.
- (5) For nominations received after the PMP for a given FY is issued, the REP WG will review the request, determine relative priority, and recommend an appropriate course of action through the CTEIP PEM to the Deputy Director (R&R), in coordination with OTICC, via the REP WG Chairman. The recommendation will address priority and necessary reprogramming of funds or the need to seek additional funding from OSD. If the late submission is deemed worthy of reprogramming, the REP WG Chairman will determine if funding could be shifted from existing subprojects. The decision to reallocate funds will be based upon the evaluation of the execution of existing REP subprojects and the criticality of the out-of-cycle submission relative to the existing prioritized list of REP subprojects. The Executing Service or Defense Agency OTICC Principal (from which funds are to be reprogrammed) must concur before any REP subproject loses funds as a result of the approval of an out-of-cycle submission. A memo will be prepared by the REP WG Chairman to document this decision.
- (6) The REP WG Chairman will notify the CTEIP PEM of the modifications to the approved list of REP subprojects for the respective FY.

SECTION 4. PROJECT EXECUTION

4.1 GENERAL

This section addresses the Project Management Plan (PMP), Test Package Directive (TPD), Subproject Management Plan (SMP), and the execution phase of the REP, including financial procedures, monitoring the progress of REP funded efforts, adjustments to the subproject for the current and following fiscal years, and subproject reviews.

4.2 PROJECT MANAGEMENT PLAN (PMP)

A PMP will be prepared by the REP WG Chairman in response to the Test Package Directive (TPD) issued by the CTEIP PEM. The PMP will be provided to the REP WG for their review and coordination with their respective Service or Defense Agency OTICC Principals. After coordination, the PMP will be forwarded to the CTEIP PEM for approval.

The approved PMP will constitute the project baseline and understanding between REP WG, WG Chairman, and the CTEIP PEM. The PMP will provide a description of the overall REP project and list all subprojects to be funded by REP. It will contain the subproject Quad Charts, consolidated milestones and schedules, and O&E plan summary.

Any change to the approved subprojects listing for a particular fiscal year will be documented as an amendment to the approved PMP for that fiscal year. The PMP amendment will be in the form of page changes and will require the same review and approval as the basic PMP for that fiscal year.

Appendix E provides the generic outline for the PMP.

4.2.1 TEST PACKAGE DIRECTIVE (TPD)

A TPD will be issued annually by the REP WG Chairman to all subprojects selected to receive REP funding of \$1M or more in any execution year or \$5M over the duration of the subproject. The TPD will contain guidance on performance, parameters and technical characteristics, schedule and milestones, and cost against which the Subproject Manager will execute the subproject.

The format and contents for the TPD is provided in Appendix F.

4.2.2 SUBPROJECT MANAGEMENT PLAN (SMP)

In response to the TPD, the Subproject Manager will prepare and submit a SMP coordinated through the REP WG Member and OTICC Principal. The SMP will provide the technical description of the subproject, requirements that established the need, capabilities to be achieved, critical and key issues, OTs to be supported, management approach, spend plan, funding distribution, and schedule. The SMP will be consistent with the guidance provided in the TPD and will be prepared in accordance with Appendices G and H (format and checklist). The SMP will address how the subproject will be transitioned to the gaining Service, Defense Agency, or organization and provide the O&M funding estimates that may be required to sustain the capability. The SMP submitted for each REP subproject will be reviewed by the WG. Any comments or issues will be resolved before it is forwarded to the REP WG Chairman for approval. A copy of the approved SMP will be provided to the CTEIP PEM.

The approved SMP, along with the TPD, will constitute a contract between the Subproject Manager/Executing Activity, the REP WG Member, the Service or Defense Agency OTICC Principal/Resource Manager, and the REP WG Chairman in the execution of the subproject. The REP subproject's performance will be measured against the schedule and funding described in SMP.

4.3 FUNDING

Funding information included in the subproject Quad Chart and O&E plan are for planning purposes only. The O&E Plan becomes final upon the approval of the PMP (and SMP, if required). Only the approved subprojects described in the PMP will be funded by REP. Funds will be released by the CTEIP PEM through the REP WG Chairman to the designated REP Financial Manager.

Once funds have been issued, the O&E Plan may only be updated if one of the following situations occurs and is documented in writing (with the documentation detailing the date and condition requiring the update) within 30 days by the Subproject Manager and submitted to the REP WG Chairman through the appropriate REP WG Member:

- a. Release of any funds (to include Continuing Resolution Authority (CRA) funding and regular REP funding).
- b. Change in the level of funding for the subproject.
- c. Change in the schedule of the first test supported by the REP subproject.
- d. Occurrence of any documented impact to the subproject not controllable by the Subproject Manager, such as protest to a contract or a delay in the delivery of a critical system component due to a contractual breach.

REP subprojects will be executed according to the baseline set forth in the PMP for that fiscal year. Any breach to the following thresholds will be reported to the REP WG Chairman by the Subproject Manager, through their respective REP WG Member, within 10 working days in writing. Any projected breach or deviation within the next 90 days that will impact cost, funding, schedule, performance, or requirements should be reported to the REP WG Chairman by the WG Member. A recommended course of action and alternatives considered should be similarly forwarded within 30 days of initial notification.

- a. Cost deviation of 10% or \$100K (which ever is less) for any given fiscal year.
- b. Loss, or impending loss, of ancillary non REP funding sources which may cause the subproject (as described in the Quad Chart) to become non-executable within planned schedule and/or costs.
- c. Schedule slips of 90 days for milestones identified in the Quad Chart or any inability to provide an initial operating capability in advance of the scheduled OT, to include breaches caused by a rescheduling of the OT.
- d. Failure (or projected failure) to meet established technical performance requirements.
- e. Changes which are projected to impact upon any procurement, acquisition, or resource action planned or underway.
- f. Cancellation or delay of any supported program or OT.

The REP WG Chairman will be responsible for notifying the CTEIP PEM within ten working days of the situation. The REP WG Chairman may form a technical or administrative subcommittee to examine the options available to correct any breach. These options include, but are not limited to, adjustment of the subproject budget, re-scoping of the technical program, or canceling the subproject. The Subproject Manager will submit to the REP WG Chairman, through his or her respective WG Member, a revised Quad Chart and O&E Plan within 30 days of decision to correct such breach.

4.3.1 FUNDING ALTERNATIVES

In some instances, a REP subproject receives funds from the REP as well as from other sources. In those cases, the capability funded by REP should be explicitly identified. In cases where the REP funding provides for upgrades or improvement of a current capability, the improvement resulting from REP funding is to be specifically identified. In all cases, the reason that REP funding is being used as opposed to Service funding or funding from an individual acquisition project should be specifically addressed in the Additional Comments section of the NAR, Continuation Sheet.

4.3.1.1 FUNDING FOR OPERATION AND MAINTENANCE (O&M) AND PROCUREMENT

The O&M cost of new capabilities or the procurement of additional quantities beyond attainment of operational capability is not funded by REP. Follow-on procurement and O&M are Service and Defense Agency responsibilities. Follow-on procurement costs must be identified in the Quad Chart. The rough order of magnitude O&M costs must be annotated in the Additional Comments section of the NAR, Continuation Sheet.

4.3.2 DISTRIBUTION OF FUNDS

OSD provides funding to the REP designated financial POC via direct allotment as early in the fiscal year as possible for timely distribution to the executing activities. The designated REP Financial Manager will issue funds on a DD Form 448, Military Interdepartmental Purchase Request (MIPR), or other appropriate funds distribution document, in accordance with the amounts specified and authorized by the REP WG Chairman. Funds will either be accepted as a reimbursable order (to cover in-house costs) or direct cite (contract costs).

Subprojects with lagging obligation and/or expenditure rates or with other difficulties that change their fiscal year requirements may be issued a decreasing MIPR by the designated REP financial manager at the direction of the REP WG Chairman in coordination with the other Service and Defense Agency OTICC Principals. Any changes to the funding for a subproject will be provided in writing to the designated REP financial manager over the REP WG Chairman's signature.

No new contractual obligations may be incurred after the established expiration date of the MIPR (or other appropriate funds distribution document) without formal extension. The request to extend the funds will include the amount, justification as to why the funds need to be extended, and a date when the funds will be obligated. Once approved, the extension will be documented in an amendment to the basic MIPR (or other appropriate funds distribution document) and provided to the requesting Service/Agency and financial POC.

4.3.3 REDISTRIBUTION OF FUNDS

The Services or Defense Agencies may transfer up to 10% or \$100K, whichever is less, of the programmed budget of any of their funded subproject to any other funded subproject without prior Service or Defense Agency OTICC Principal approval. Notice must be provided in writing to the REP WG Chairman, with full documentation of the amount of funds to be transferred, the originating subproject, the receiving subproject, and the new budgets for each subproject.

Transfer of funds from a given subproject in excess of the 10% or \$100K (whichever is less) of the programmed budget, within the Service or Defense Agency,

will require concurrence from the Service or Defense Agency OTICC Principals and approval by the CTEIP PEM before action is initiated. The REP WG will examine the transfers of funds across Services and Defense Agencies, in the interests of the OTAs, and provide a recommendation to the CTEIP PEM through the REP WG Chairman for approval.

In the event that funds become available because of subproject cancellation, unacceptable subproject execution, or re-direction, the REP WG will make recommendation(s) on the best use of these funds. Factors to be considered are currently executing subprojects, subprojects approved but below the funding line, and out-of-cycle submissions. The CTEIP PEM, through the REP WG Chairman, in coordination with the OTICC Principals, will approve all final funds redistribution.

All redistribution and transfer decisions will be documented by memoranda prepared by the REP WG Chairman. Redistribution or transfer will take place upon re-issuance of funds by the REP Financial Manager. The REP WG Member will submit to the REP WG Chairman an updated Quad Chart and O&E plan for each affected subproject. O&E reports will be adjusted to reflect the new funding levels.

4.3.4 FINANCIAL ANALYSIS

The active administration of the REP includes performing regular cost analysis and financial assessments. The designated Subproject Manager will provide the REP WG with available information on costs, expenditures, and obligations when requested. The REP WG will conduct a semi-annual review of those subprojects with an acceptable financial performance. The REP WG will conduct bimonthly reviews on those subprojects exhibiting financial or technical problems. The REP WG Chairman will report the results of these analyses to the CTEIP PEM.

4.3.5 FINANCIAL REPORTS

For each REP funded subproject, the Subproject Manager, through the respective REP WG Member, will submit a monthly status report that will show the major accomplishments and milestones achieved during the preceding month; upcoming events; any technical, funding, or schedule problems, and the actual O&E. Any deviation from the subproject baseline with reasons for deviation will be addressed in this report. The O&E will include:

- Obligations - amount of an order placed, contract awarded, service rendered, or other transaction that legally encumbers a specified amount of an appropriation or fund for expenditure.
- Expenditures - total of disbursements plus accruals.
- Disbursements - charges against available funds representing actual payment and evidenced by vouchers, claims, or other documents approved by competent authority.

- Accruals - costs incurred during a given period representing liabilities incurred for goods and services received, other assets acquired and performance accepted, prior to payment being made.

The report will be provided to the REP WG Chairman by the 15th day following the end of the month. The REP WG Chairman will consolidate the inputs and forward a consolidated report to DOT&E, the CTEIP PEM, and the designated OSD Financial Manager by the 20th day of the month. A copy of the report will be also provided to the OTICC Principals and REP WG Members. Appendix I contains the format for the monthly report.

Other monthly reporting requirements will be annotated in the MIPRs or other appropriate funding documents prepared by the Service or Defense Agency financial POC for each REP subproject.

4.4 PROGRAMMATIC AND TECHNICAL REPORTS

Periodic reports on the programmatic and technical progress of specific subprojects may be requested by any Service or Defense Agency OTICC Principal. Copies of formal requests made by the WG Member to the Subproject Manager will be provided to the respective Service or Defense Agency OTICC Principal.

Upon the completion of all subprojects, the Subproject Manager, through the REP WG Member, will submit a final report to the REP WG Chairman 90 days after the subproject has achieved operational capability. The data that must be included in the final report are provided in Appendix J.

4.5 SUBPROJECT REVIEWS

All REP subprojects will be reviewed at least twice annually: once during joint meeting between the OTICC Principals and the REP WG in preparation for or during the CTEIP Mid-Year Review and a second time by the REP WG on-site at or near the location where the subproject is being executed, if practicable and possible.

The joint meeting between the OTICC Principals and the REP WG in preparation for or during the CTEIP Mid-Year Review is normally scheduled for the March-April time period and conducted in the Washington, D.C. area. The REP WG Chairman will be responsible for briefing, during the CTEIP Mid-Year Review, all subprojects whose FY funding is below \$1M in any execution year. The WG Member or the Subproject Manager of subprojects whose funding is \$1M or more in any execution year or \$5M over the duration of the subproject will be responsible for providing the briefing for the CTEIP Mid-Year Review, if required by the CTEIP PEM. The format and topics for the CTEIP Mid-Year Review are contained in the CTEIP JIM PEG.

The WG Member or the Subproject Manager will be responsible for providing a briefing on-site regarding the current technical, schedule, and funding status of the subproject, to include other requirements identified by REP WG Chairman.

REP subprojects are also subject to an in-process review whenever subproject financial, technical, and/or schedule variances warrant.

The WG Member or the Subproject Manager is required to address the following topics at each of these reviews or whenever requested by the CTEIP PEM:

- a. OT shortfalls/limitations
 - (1) Current test methodology and what can not be tested.
- b. Subproject Description
 - (1) Provide a detailed description of the subproject with an emphasis on the portion supported by REP funds.
 - (2) Describe how the subproject will resolve the T&E shortfall.
- c. Operational Tests to be Supported
 - (1) Identify the acquisition programs or tests to be supported. Include ACAT, type of test, and test dates.
- d. Technical status
 - (1) Describe what has been accomplished to date with respect to capability development. Include any OTs supported.
 - (2) Describe the current status and tasks to be completed.
- e. Current Risks / Problems
 - (1) Describe any technical, programmatic, financial and schedule risks/problem(s).
 - (2) Describe the potential solution for each problem/risk area.
 - (3) Describe the actions that will mitigate risks.
 - (4) Provide the impacts if risks/problems are not resolved.
- f. Schedule
 - (1) Current schedule compared to planned schedule. Include significant milestones.
- g. Funding status
 - (1) Provide the original fund estimate, current approved funds, required funds and delta, if any.
 - (2) Provide the obligation status by FY. Include the original plan, actual and revised plan.
 - (3) Provide the expenditure status by FY. Include the original plan, actual and revised plan.
 - (4) Identify any unexpended prior year's funds and provide justification.
- h. Contract status
 - (1) Provide contract description (i.e. CP, FP, CPFF, etc), contractor, location where work performed, and contract value.
 - (2) Describe any cost variance and impact

- (3) Describe any schedule variance and impact
 - (4) Describe any anticipated/known future contract changes
- i. Critical/Key Issues
 - (1) Describe any critical current/anticipated problems
 - (2) Provide recommendations that will resolve the problems or issues.
Identify if assistance is required at OSD/Service HQ level.

A read-ahead copy of the planned presentation should be provided to the REP WG Chairman at least 10 days prior to the review for distribution to the meeting participants. An electronic copy of the final presentation compatible with Microsoft Office suite (PowerPoint, Word, and Excel) will be provided by the Subproject Manager, through the REP WG Member, to the REP WG Chairman via electronic mail or 3.5" PC format floppy disk.

4.6 SUBPROJECT BRIEFINGS

All Subproject Managers are required to provide, through their respective REP WG Member, a two-chart briefing that will depict the essential elements of each REP subproject. These charts will be used to support quick turn around requests for information, presentations requested of the CTEIP PEM, and for presentation at the CTEIP Mid-Year Review. These charts will contain:

- a. Color photograph (preferable) or print quality illustration depicting the subproject and an electronic submission of the photograph/illustration (in pict, gif, or tiff format).
- b. Color photograph (preferable) or print quality illustration of Subproject Manager's organizational logo.
- c. Subproject description (bulletized), including funding, sources of funding, Executing Service or Defense Agency, location, type, IOC date, and OTs to be supported.
- d. Payoffs and benefits that this capability will provide (e.g. cost avoidance/savings of XX dollars per year, reduced number of mission sorties, system can be integrated and used at any DoD range, etc.).
- e. Justification for REP funding.

The briefing charts should be consistent with the information provided in the subproject Quad Chart and O&E Plan. The format and content requirements of the briefing charts are depicted in Figures 2a and 2b.


 <div style="display: inline-block; vertical-align: middle; margin-left: 20px;"> RESOURCE ENHANCEMENT PROGRAM FYXX SUBPROJECT </div>	
“Subproject Name”	
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Subproject Description <ul style="list-style-type: none"> </div> <div style="border: 1px solid black; padding: 5px;"> Total REP Funding- \$M FYXX - \$M FYXX - \$M FYXX - \$M Other Sources of Funding - \$M Srv/Org FYXX - \$M Srv/Org FYXX - \$M </div>	<div style="margin-bottom: 10px;"> Executing Svc: Location: Type: </div> <div style="border: 1px solid black; height: 150px; display: flex; align-items: center; justify-content: center;"> <div style="text-align: center;"> Photo or Illustration </div> </div>

Figure 2a. REP Briefing - Chart 1


 <div style="display: inline-block; vertical-align: middle; margin-left: 20px;"> RESOURCE ENHANCEMENT PROGRAM FYXX SUBPROJECT </div>																					
“Subproject Name”																					
<p>IOC - Tests to be Supported:</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="width: 45%;">PROGRAMS</th> <th style="width: 15%;">ACAT</th> <th style="width: 25%;">Test Type</th> <th style="width: 15%;">Test Date</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table> <p>Pay-Off/Benefits:</p> <div style="border: 1px solid black; height: 30px; margin-bottom: 10px;"> <ul style="list-style-type: none"> </div> <p>REP Funding Justification:</p> <div style="border: 1px solid black; height: 30px;"> <ul style="list-style-type: none"> </div>		PROGRAMS	ACAT	Test Type	Test Date																
PROGRAMS	ACAT	Test Type	Test Date																		

Figure 2b. REP Briefing - Chart 2

4.7 MANAGEMENT OF REP FINANCED ASSETS

REP financed assets will be managed and maintained by the individual Service or Defense Agency responsible for its acquisition.

4.8 REP MEETINGS

Meetings between the REP WG Chairman and the CTEIP PEM are held on a periodic basis to review the status of the REP. In the event that subproject briefs are required, the preparation of read-ahead material regarding a specific subproject is the responsibility of that Subproject Manager. The read-ahead materials are to be provided to the REP WG Chairman through the respective REP WG Member at least 10 calendar days prior to the meeting for consolidation and distribution.

4.9 REP SUBPROJECT DATA

The REP Subproject Manager will provide, through their respective REP WG Member, the details on the distribution of funds for each subproject. The data will include the identification of the contractor or government agency by name, the location (city and state) where the work is being performed, the dollar amount related to that effort, and the type of agency performing the work (i.e., for profit contractor, non-profit contractor, or government). The entire budget for each subproject will be identified in terms of the tasks and budgets. Table 2 is an example of the list of information to be provided by each REP Subproject Manager.

Service/ Agency	REP Subproject Title	Contractor	City	State	Value (\$K)	Gov/Contr	Type of Contract
(Indicate name of Service or Agency)	(Indicate name/title of REP Subproject)	(Indicate company names of all Contractors or Government Agencies)	(Indicate name of city where work is being performed by the Contractors or Government Agencies)	(Indicate the name of state where work is being done)	(indicate the entire budget to complete effort)	(Indicate C for Contractor, G for Government, NP for Non-Profit Organization)	(Indicate the type of contract, i.e: CPFF, FP, CPTF, CP, etc.)

Table 2. REP Funds Distribution

Appendix A

Quad Chart Preparation

Quad Charts are the key management documents for the Resource Enhancement Project (REP). Identified in the Quad Chart are the principal individuals and organizations involved in the execution of the REP subproject, a detailed description of the subproject; the operational tests (OTs) to be supported, the subproject acquisition or development schedule, the subproject funding stream, and the rationale that establishes the need and criticality of the subproject.

The following guidelines must be followed when preparing the Quad Chart. An illustration of the Quad Chart with a brief description of the guidelines for each section is at Figure A-1. Note that the timelines for the subproject schedule and the funding stream are centered on the current fiscal year. With REP funding of subprojects generally constrained to three years, this scheme allows the portrayal of the full funding stream for each ongoing subproject.

Name of the Subproject:

Provide the full name of the subproject and an abbreviated name to be used for short hand identification. Ensure that the abbreviated name does not conflict with any currently used acronyms.

Administrative Section:

Provide the full name and rank (if appropriate) of the individual who will be the Subproject Manager and an alternate who can be called directly to answer questions regarding the technical performance, schedule and financial status of the subproject. These individuals should not be Resource Enhancement Project Working Group (WG) Members, but members of the Executing Activity. Provide voice and Fax numbers that are accurate and current.

The Origin Date is the date that the subproject documentation is initially prepared. This date is automatically entered and will not change.

The Modification Date is entered and will change whenever an entry is made to the subproject record in the REP Automated Management Information System (RAMIS). It does not necessarily mean that a change was made to the Quad Chart.

Executing Service is the military Service or Defense Agency sponsoring the subproject. The executing activity is the organization to which the Subproject Manager is assigned. Identify the military installation or city and the state where the executing activity is located.

Subproject Description:

Provide a comprehensive, detailed description of the subproject. The reader must have a clear understanding of exactly what is being developed or acquired using REP funds. Address such topics as critical performance characteristics, critical technical parameters, and key hardware and software interfaces.

If REP is funding only a portion of a larger project, provide a succinct (one or two sentence) description of the entire project. Provide specific details on that portion receiving REP funding.

Specify the deliverable to be obtained with REP funds. For multi-year subprojects, specify how that fiscal year's funds will be used. Every subproject description should clearly indicate the current FY efforts.

The amount of detail provided is constrained only by the space available in that section of the Quad Chart.

Operational Tests to be Supported:

Identify each OT that has a documented shortfall that will be satisfied in whole or part when the capability provided by the described subproject is available. The shortfall must be documented in an approved Test and Evaluation Master Plan (TEMP) or other approved test planning documentation.

- Specify the type of OT to be conducted. Follow-on operational test and evaluations (FOT&Es) that have as their major thrust the support of tactics and training efforts are not supportable by REP.
- Identify the test start date. The date must be shown as the fiscal quarter and fiscal year or the calendar date. This date will be used as a benchmark to determine if the subproject as scheduled will provide the capability to support the identified testing in a timely fashion. The completion of the subproject or at least attainment of an operational capability must take place before the first identified OT need date for the subproject to qualify for REP funds.
- Highlight in bold the title(s) of the OT(s) that are driving the need for this test capability.
- List the OTs to be supported in chronological order, based on OT start or test need date.
- In the event that the capability being developed by REP is not required until a later phase of testing, show as the test date, the date that the capability is actually needed. The date must be shown as the fiscal quarter and fiscal year or the calendar date. If the need date is not the OT start date, denote such by placing the date in parentheses, i.e., (4QtrFY02).

Constraints/Limitations to Scope:

Clearly describe in this section the test limitation or shortfall that is documented in the test planning documents of the OTs to be supported. The description must allow the reader to make a direct association between the subproject as described and the capability to be obtained and the limitation or shortfall. In essence, this section is intended to answer the question, "Why do you need this capability?"

Identify the Critical Operational Issue (COI) or performance parameter that cannot be addressed because the test capability to be obtained is not available.

This section establishes the basis or reason for undertaking the subproject. A description of why the shortfall exists that requires REP funding should be included. For example, specific Director, Operational Test and Evaluation (DOT&E) requirements added on, meeting project milestones, etc. This section, along with the statement of impact, provides the basis to support the REP WG recommendation to fund the subproject. Focus on the problem that will be alleviated when the requested capability is available.

The determination of whether or not to undertake a given subproject will generally be made considering whether the identified test limitation or shortfall can be overcome sufficiently to minimize the uncertainty surrounding an upcoming decision.

Some typical constraints would be:

- Inability to address a specific Critical Operational Issue and Criteria (COIC). Reference the source document if quoting a COIC.
- Inability to assess the testing of a specific component of the system under test that is required by the test plan or TEMP. Identify the component.
- Inability to process data in a timely fashion necessary to execute the test in the time frame available. Identify the data elements that will be missing.

Impact If Not Funded:

Provide a statement that will support the REP WG when addressing the need for this capability with senior level test and evaluation (T&E) decision makers, the Congress, and audit agencies. Consider the specific operational performance and/or suitability issues or questions that will not be adequately addressed if the described capability is not available and the impacts on the acquisition, development, or product improvement program that is scheduled for OT. Examples of such a statement are:

- Inability of the evaluators to adequately evaluate the operational performance or suitability of the system in support of an upcoming milestone decision;

- The degree of risk that the acquisition decision makers must accept; or
- The costs that will be incurred if the required capability is not available.

This section should address the question, "What happens if you do not receive the funding requested and the capability is not available?"

Provide the fundamental rationale for executing the subproject, which should be distinct from the "Constraints/Limitations to Scope." The constraints and limitations section addresses the test shortfall that has caused the need to secure the capability, whereas the impact if not funded is intended to identify the cost or schedule impacts, additional mission costs, and decision risk that will result if the funding is not provided.

Typical impacts if the requirement were not funded causing a portion of the OT to be not executed or not affordable would be:

- A specific test phase (describe the objective of the test phase) cannot be conducted as the required data collection or analysis cannot be performed.
- Live fire testing using realistic threat systems cannot be performed.
- The ability of the "system" to maintain communication linkage in a high density signal jamming environment cannot be evaluated.
- Additional sorties must be flown to address test issues not solved by the proposed real-time data analysis system. Without the new capability, the OT cannot secure all of the data required by the test plan within the number of sorties permitted by the test budget.

Subproject Schedule:

Include only those milestones that are critical to the success of the subproject, i.e., if not achieved by the time identified the subproject completion will be delayed or additional funding will be required. In particular, identify the milestones against which progress can be measured on a periodic basis. At a minimum, include the subproject start date, contract award date, contract performance period (if applicable) and the date that an operational capability will be available to support operational testing. It is critical that the capability provided by the subproject be available to support the identified first OT start date. The operational capability should be depicted as a point in time, not as a period of time.

Funding Profile (\$M) by Fiscal Year:

Include the funds to be applied to the described subproject and the respective source of funding, e.g., REP, Service Research, Development, Test and Evaluation (RDT&E), etc. Identify funds available as well as projected requirements if more than one year of funding is required. For previous years, include the funds actually received.

Include all sources of funding that are or will be needed to fully develop or complete the capability, particularly in those cases where REP is providing only a portion of the required funding.

Identify known shortfalls in funding occurring after subproject start that are needed to complete the subproject as described. This does not include funds to provide additional capability or capacity.

<div style="border: 1px solid black; display: inline-block; padding: 2px 10px;">Name of Subproject</div>																																	
POC Name: <div style="border: 1px solid black; width: 100px; height: 15px;"></div> DSN Phone: <div style="border: 1px solid black; width: 100px; height: 15px;"></div> DSN Fax: <div style="border: 1px solid black; width: 100px; height: 15px;"></div>		Abbreviated Name: <div style="border: 1px solid black; width: 100px; height: 15px;"></div> POC Alternate: <div style="border: 1px solid black; width: 100px; height: 15px;"></div> Commercial Phone: <div style="border: 1px solid black; width: 100px; height: 15px;"></div> Commercial Fax: <div style="border: 1px solid black; width: 100px; height: 15px;"></div>		Origin Date: <div style="border: 1px solid black; width: 100px; height: 15px;"></div> Modification Date: <div style="border: 1px solid black; width: 100px; height: 15px;"></div> Executing Service: <div style="border: 1px solid black; width: 100px; height: 15px;"></div> Status: <div style="border: 1px solid black; width: 100px; height: 15px;"></div> Executing Activity: <div style="border: 1px solid black; width: 100px; height: 15px;"></div> City/State: <div style="border: 1px solid black; width: 100px; height: 15px;"></div>																													
Subproject Description Describe the subproject as follows: Identify the REP funded item or capability being acquired, replaced, modified or enhanced. Describe what REP funds for that FY will provide. Describe the critical operational performance characteristics and technical parameters that will be funded by REP. Include a succinct description of the overall project if REP is providing only a portion of the funding.			Constraints/Limitations to Scope Identify the constraints and/or limitations to the scope of the scheduled operational tests that the described subproject will overcome or minimize. Identify the COI (s) that will not be adequately addressed if this capability is not provided. Describe why the shortfall exists that requires REP funding.																														
Tests to be Supported List the OTs that have documented a test or evaluation capability shortfall that will be satisfied by the subproject as described. Highlight in bold type the title of the OT(s) that are driving the requirement. Provide the ACAT for the system to be tested.			<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">ACAT</th> <th style="width: 40%;">Test Type</th> <th style="width: 50%;">Test Date</th> </tr> </thead> <tbody> <tr> <td></td> <td>Examples: IOT&E</td> <td>Provide the start date</td> </tr> <tr> <td></td> <td>FOT</td> <td>for each of the scheduled OTs</td> </tr> </tbody> </table>		ACAT	Test Type	Test Date		Examples: IOT&E	Provide the start date		FOT	for each of the scheduled OTs																				
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	FOT	for each of the scheduled OTs																															
Subproject Schedule: Provide the critical milestones to be used in the execution of the subproject. Identify the start date and the date when the operational capability will be achieved. e.g. Operational Capability			Funding Profile (\$M): <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Source</th> <th style="width: 10%;">FYXX</th> <th style="width: 10%;">FYXX</th> <th style="width: 10%;">FYXX</th> <th style="width: 10%;">FYXX</th> <th style="width: 10%;">FYXX</th> <th style="width: 10%;">Total</th> </tr> </thead> <tbody> <tr> <td colspan="7">Enter the source(s) of funding and the dollar amount by fiscal year for funds provided or projected as required to support the described subproject.</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>			Source	FYXX	FYXX	FYXX	FYXX	FYXX	Total	Enter the source(s) of funding and the dollar amount by fiscal year for funds provided or projected as required to support the described subproject.																				
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FYXX Quad Chart

Figure A-1. Quad Chart

Appendix B

Nomination Assessment Report Preparation

The Nomination Assessment Report (NAR) documents the results of the analysis completed by the Resource Enhancement Project (REP) Working Group (WG) to determine if a proposed subproject meets the criteria for Resource Enhancement Project (REP) funding.

The NAR will be prepared by the Subproject Manager for initial submission to the REP WG. Incomplete or inadequate documentation supporting the responses recorded on the Report can serve as grounds for rejection. A “Yes” answer to the questions regarding operational test (OT) limitation/duplication of capability and Threat Simulator Investment or Targets Investment WGs coordination and “Yes or No” answer to the question concerning Operation and Maintenance (O&M) require that a rationale be provided on the NAR Continuation Sheet.

Review of the NAR, along with the Quad chart, the Obligation and Expenditure Plan (O&E Plan) and the rough order of magnitude estimate of the O&M support required to sustain operations (when applicable), serves to support the decision as to whether a proposed subproject is acceptable for REP funding.

The administrative information, with the exception of the Type of Subproject, is directly lifted from the Quad chart for the subproject. The outline of the NAR is found at Figure B-1, with the Continuation Sheet shown as Figure B-2.

Include the reason that REP funding is being used, as opposed to Service/Agency funding or funding from an individual acquisition project in the Additional Comments section.

The following guidelines must be followed by the Subproject Manager when preparing the unique sections of the NAR. Each of the responses should be supported by properly signed documentation.

Type of Subproject:

REP subprojects are generally categorized into six subproject types. A category of "other" is available to label a subproject that does not fit directly into one of the six subproject types. These types are:

- Foreign Materiel Utilization (FMU): The subproject involves foreign military equipment already on hand. The effort is to modify or enhance the existing capability to support use in operational testing.
- Targets: An actual system, sub-scale model, surrogate system, or system developed to simulate the capability and characteristics of a real-world system for use in support of tracking and/or live fire missions.

- Threat Simulator: Any unit from a family of equipment used to represent threat weapon systems. A threat simulator has one or more characteristics which, when detected by human senses or man made sensors, provides the appearance of an actual threat weapon system with a prescribed degree of fidelity.
- Instrumentation: A hardware or software capability that is used in the collection of data.
- Modeling and Simulation: A hardware or software capability that is used to replicate/represent actual system
- Analysis Tool: A hardware or software capability that is used in the analysis of data.
- Professional Services: Support generally provided by contractors assisting in needs analysis, requirements identification, documentation preparation, and subproject management and oversight.

Critical Review Elements:

Responses to these questions are used to determine if the proposed subproject qualifies for REP funding.

Does the subproject satisfy a documented OT limitation?

Yes, if there is an Office of the Secretary of Defense (OSD) approved or Service approved Test and Evaluation Master Plan (TEMP) (if the Service or Defense Agency is final TEMP approval authority) or other approved OT test plan that identifies the specific test limitation. The TEMP or test plan should be available for review by the REP WG on request. A “yes” response requires that the documentation identifying the OT limitation be referenced in the Continuation Sheet.

No, if otherwise.

Will the subproject deliver capability in time to support the scheduled OT?

Yes, if the operational capability that will be provided by the subproject is available to support the first scheduled OT requiring this capability.

No, if otherwise.

Will the subproject be completed within three (3) years?

Yes, if completion of the REP portion of the project is within a three year period.

No, if otherwise.

Does the subproject support a scheduled OT?

Yes, if there is/are OT(s) scheduled (not just planned) within the next three year period that have documented limitations or shortfalls to be satisfied by the described subproject.

No, if otherwise.

Is the subproject duplicative?

Yes, if a similar capability exists within DoD.

For threat simulator or threat related subprojects, coordination either the Threat Simulator Investment or Targets Investment WGs to determine if it duplicates existing or planned capabilities should be initiated before the subproject is accepted as a valid REP candidate.

No, if otherwise.

If so, then is the duplication warranted?

Yes, if the Service or Defense Agency sponsor can provide compelling reasons and rationale why an existing capability cannot be utilized to satisfy the OT limitation. At a minimum, documentation from the organization operating the duplicative capability attesting to its non-availability to support the scheduled testing is required. This documentation should include an analysis that provides an adequate basis supporting development of a duplicate capability. The analysis should identify points of contact with phone numbers and addresses. If duplication is claimed to be warranted, then the documentation (Memorandum for Record, formal memorandum, etc.) stating this fact and the grounds for the assessment must be referenced in the Continuation Sheet.

No, if otherwise.

Is the subproject executable as depicted?

Yes, if the subproject can attain operational capability on the proposed schedule with the funds identified. The Executing Activity's plan should be closely reviewed to determine if the capability could be obtained within the time and schedule constraints and still meet performance requirements.

No, if otherwise.

Secondary Review Elements.

Responses to these questions are used primarily to establish the relative priority of the subproject for REP funding.

Is the subproject common to multiple agencies?

Yes, if the capability can be used to satisfy OT requirements identified by other Services or Defense Agencies, or if the capability can satisfy multi-service needs for OT data on a multi-service acquisition program. Documentation supporting this determination with multi-service concurrence should be on record and available for review by the REP WG.

No, if otherwise.

Can the provided capability be reasonably moved to other sites?

Yes, if the capability will be transportable. The assets developed/obtained do not have to be mobile, i.e., move under their own power.

No, if otherwise.

N/A, if not a valid question for the described capability.

Is the subproject low in technical risk?

Yes, if the subproject proposes to use available, demonstrated technology, proven hardware and software, or other existing capabilities.

No, if otherwise.

For threat and target related subprojects, has coordination been initiated with Threat Simulator Investment or Targets Investment WG?

Yes, if a request has been made to the appropriate WG and coordination is underway. If the Subproject Manager or Executing Activity has, through the REP WG Member, coordinated with the Service/Agency representative on the appropriate WG and received a favorable response, the response must be maintained as a matter of record by the Executing Activity. Reference the memorandum that documented such coordination in the Continuation Sheet.

No, if otherwise.

N/A, if coordination with either the Threat Simulator Investment WG or the Targets Investment WG is not required.

Has the O&M requirement been identified and coordinated?

Yes, if the O&M requirement has been determined and coordination with the proposed gaining organization has been initiated. REP does not provide sustainment funding. A “yes” response requires that the documentation recording the coordination with the gaining organization be referenced in the Continuation Sheet.

No, if otherwise. Provide rationale in the Continuation Sheet.

N/A, if O&M is not a consideration for the described capability

Continuation Sheet:

The Continuation Sheet contains the information supporting the responses to the questions under Critical and Secondary Review Elements.

Additional Comments:

- Document the coordination with the OTA Commanders
- Provide the reason for seeking REP funding as opposed to Service funding or funding from an individual acquisition project
- Provide other information addressing issues related to the subproject
- Include the name of the gaining organization that will maintain/sustain the capability. Include the ROM for O&M support and describe how funds will be obtained.

Resource Enhancement Program FYXX Nomination Assessment Report																																				
<div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">Name of Subproject</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">Abbreviated Name</div> <div style="border: 1px solid black; padding: 2px;">Subproject Type:</div>																																				
POC Name: <div style="border: 1px solid black; width: 100%; height: 15px;"></div> DSN Phone: <div style="border: 1px solid black; width: 100%; height: 15px;"></div> DSN Fax: <div style="border: 1px solid black; width: 100%; height: 15px;"></div> Commercial Phone: <div style="border: 1px solid black; width: 100%; height: 15px;"></div> Commercial Fax: <div style="border: 1px solid black; width: 100%; height: 15px;"></div>	POC Alternate: <div style="border: 1px solid black; width: 100%; height: 15px;"></div> Executing Activity: <div style="border: 1px solid black; width: 100%; height: 15px;"></div> Executing Service: <div style="border: 1px solid black; width: 100%; height: 15px;"></div> City: <div style="border: 1px solid black; width: 100%; height: 15px;"></div> State: <div style="border: 1px solid black; width: 100%; height: 15px;"></div>																																			
Funding Profile (\$M): <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>Source:</th> <th>FYXX</th> <th>FYXX</th> <th>FYXX</th> <th>FYXX</th> <th>FYXX</th> <th>Total</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>		Source:	FYXX	FYXX	FYXX	FYXX	FYXX	Total																												
Source:	FYXX	FYXX	FYXX	FYXX	FYXX	Total																														
Critical Review Elements <div style="border: 1px solid black; padding: 5px;"> <p>Does the subproject satisfy a documented OT limitation? <input type="radio"/> Yes <input type="radio"/> No</p> <p>Will the subproject deliver capability in time to support the scheduled OT? <input type="radio"/> Yes <input type="radio"/> No</p> <p>Will the subproject be completed within three years? <input type="radio"/> Yes <input type="radio"/> No</p> <p>Does the subproject support a scheduled Operational Test? <input type="radio"/> Yes <input type="radio"/> No</p> <p>Is the subproject duplicative? <input type="radio"/> Yes <input type="radio"/> No</p> <p>If so, is duplication warranted? <input type="radio"/> Yes <input type="radio"/> No</p> <p>Is the subproject executable as depicted? <input type="radio"/> Yes <input type="radio"/> No</p> </div>	Secondary Review Elements <div style="border: 1px solid black; padding: 5px;"> <p>Is the subproject common to multiple agencies? <input type="radio"/> Yes <input type="radio"/> No</p> <p>Can the provided capability be reasonably moved to other sites? <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> N/A</p> <p>Is the subproject low in technical risk? <input type="radio"/> Yes <input type="radio"/> No</p> <p>For threat related subprojects, has coordination with Threat Simulator or Targets Investment WGs been initiated ? <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> N/A</p> <p>Has the O&M requirement been identified and coordinated? <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> N/A</p> </div>																																			
Provide comments as appropriate (use separate page)																																				

Figure B-1. REP Nomination Assessment Report

Resource Enhancement Program FYXX Nomination Assessment Report Continuation Sheet	
<div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">Name of Subproject</div> <div style="border: 1px solid black; padding: 2px;">Abbreviated Name</div>	
List the documentation that establishes the OT limitation. <div style="border: 1px solid black; padding: 2px; min-height: 20px;">Reference the TEMP, OT planning document or directive that establishes the need for the test capability in support of a scheduled OT and confirms that the test capability is not available.</div>	
Identify correspondence that justifies duplication. <div style="border: 1px solid black; padding: 2px; min-height: 20px;">Reference the document that establishes that the duplication is warranted. A copy of the correspondence must be retained on file by the subproject manager/executing activity.</div>	
List documentation that confirms coordination with Threat Simulator Investment or Targets Investment WGs. <div style="border: 1px solid black; padding: 2px; min-height: 20px;">Reference the memorandum that documents the review of the REP candidate subproject by the Threat Simulator Investment or Targets Investment WGs. Summarize the conclusions and/or actions required to complete required coordination.</div>	
Document the discussion with the gaining organization regarding O&M. <div style="border: 1px solid black; padding: 2px; min-height: 20px;">Reference the document that summarizes the discussions and conclusions resulting from the coordination with the gaining organization.</div>	
Additional Comments: <div style="border: 1px solid black; padding: 2px; min-height: 100px;"> Identify the Senior OTA Manager who was briefed about the subproject. Include short responses to issues pertaining to the subproject. Include the rough order of magnitude estimate for O&M support. Provide the reason for seeking REP funding as opposed to Service funding or funding from an individual acquisition project. </div>	

Figure B-2. REP Nomination Assessment Report

Continuation Sheet

Appendix C

Obligation and Expenditure Plan Preparation

The Obligation and Expenditure Plan (O&E Plan) as shown in Figure C-1 provides essential information regarding the obligation and expenditure planning for funds provided to a given REP subproject. The O&E Plan identifies for a specific fiscal year how the subproject plans to obligate and expend that fiscal year's funding.

The O&E Plan must be prepared by the Subproject Manager to depict the spending plan for a REP subproject starting the month that funds are received through the month that funds are expected to be fully obligated and expended. With REP funds being two-year funds, the spending plan section of the O&E Plan depicts a two-year period to accommodate both obligations and expenditures for this period.

Subproject progress and activity is generally assessed against the spending plan for the subproject.

Guidelines for preparing the specific sections are as follows:

Administrative Information, Project Schedule, Proposed Budgets, and Impact If Not Funded

This information is extracted directly from the Quad Chart.

Obligation and Expenditure Plan for FYXX

For the initial O&E Plan, the starting point is the month in which funds are expected to be received. The O&E Plan can be subsequently revised based on the month and amount of funds actually received. The O&E Plan should depict the planned monthly obligation and expenditure of that fiscal year's funds from receipt through 100% obligation and expenditure.

PE 0604940D

FYXX Obligation/Expenditure Plan[illegible]

Figure C-1. Obligation and Expenditure Plan

Appendix D
RESOURCE ENHANCEMENT PROJECT
Subproject Nomination, Review, Approval and Management Process

The following provides a checklist of activities and events, detailed in the body of the Resource Enhancement Project (REP) Planning and Execution Guide (PEG), to be followed in the submittal and subsequent execution of a REP subproject. Identified are the principal participants responsible for that activity.

- Identify and document operational test (OT) shortfall - usually documented in the Test and Evaluation Master Plan (TEMP) for the system in development. (REP Working Group (WG) Member)
- Determine solution. (REP WG Member)
- Ensure proposed subproject meets criteria for REP funding. (REP WG Member)
- Obtain Operational Test Agency (OTA) and Service or Defense Agency support and identify the Senior OTA Officer who was briefed about the subproject in the Additional Comments section of the Continuation Sheet of the Nomination Assessment Report (NAR). (REP WG Member)
- Preparation and submission of Quad Chart, NAR and Obligation and Expenditure Plan (O&E Plan). (For threat related subprojects, ensure that coordination with the Threat Simulator Investment WG or Targets Investment WG has been initiated. Coordinate with the gaining organization that will sustain and maintain the capability. (REP WG Member)
- REP WG Member representing an OTA brings subproject to REP WG for consideration. (REP WG Member)
- Preparation of subproject briefing and presentation to REP WG. (Subproject Manager / REP WG Member)
- Acceptance or rejection of subproject by REP WG. (REP WG)
- Accepted subprojects are prioritized and forwarded through the CTEIP PEM to the Deputy Director (R&R), for consideration. (REP WG Member / REP WG Chairman)
- Accepted subprojects and recommended priority list are briefed to the Deputy Director (R&R), in coordination with OTICC. (REP WG Chairman / REP WG Member / Subproject Manager)
- Final determination and recommendation provided to DOT&E for approval. (Deputy Director (R&R), in coordination with OTICC)
- Approval of subprojects. (DOT&E)
- Release of Funding (CTEIP PEM / REP WG Chairman / REP Financial Manager)
- Submission of REP Project Management Plan. (REP WG Chairman)
- Issuance of REP Test Package Directive to subprojects funded at \$1M or more in any execution year or \$5M over the life of the subproject. (REP WG Chairman)

- Submission and approval of REP Subproject Management Plan. (Subproject Manager / REP WG Member / REP WG Chairman)
- Submission of monthly status report that will show the major accomplishments and milestones achieved, upcoming events, any technical/funding/schedule problems, and actual obligations and expenditures, in accordance with the REP PEG. (Subproject Manager / REP WG Member) Consolidation and distribution of report. (REP WG Chairman)
- Subproject Reviews. (Subproject Manager / REP WG Member / REP WG Chairman)
- Notice of anticipated or actual breaches with reports and documentation required by the REP PEG. (Subproject Manager / REP WG Member / REP WG Chairman)
- Preparation of End of the Year Report and input to the CTEIP and DOT&E Annual Reports. (REP WG Member / REP WG Chairman)
- Submission of final report. (Subproject Manager / REP WG Member)

Appendix E

FISCAL YEAR XXXX RESOURCE ENHANCEMENT PROJECT PROJECT MANAGEMENT PLAN

The Resource Enhancement Project (REP) Project Management Plan (PMP) will be prepared by the REP Working Group (WG) Chairman in coordination with the WG and provided to the Central Test and Evaluation Investment Program (CTEIP) Program Element Manager (PEM) in response to the CTEIP issued Test Package Directive (TPD). It will provide the REP structure and will list the subprojects that are approved to receive funding for FYXX, a consolidated subprojects schedule of activities, level of funding, and obligation and expenditure (O&E) summary which constitutes the REP baseline. The PMP will contain a signature page, subproject information depicted in the outline below, and a statement of understanding that constitutes a contract between the REP WG Chairman and CTEIP PEM.

The signature page will contain the following:

Program Element: 0604940D CTEIP

Project Number: V-12-D (Formally 1-12D)

Functional Area: Operational Test and Evaluation

Prepared By: Signature block for the REP WG Chairman

Date Prepared: Date when the document is signed by the REP WG Chairman

Distribution Statement B: Distribution limited to US Government agencies only for administrative and operational Use. Other requests for this document must be referred to the REP WG Chairman.

The body of the PMP will address the topics outlined below. The PMP will provide sufficient detail on how the subprojects will be managed, monitored, and executed and how resources will be distributed and/or re-allocated. The PMP will be updated by page changes to document any changes to the subproject information.

1.0 PROJECT DESCRIPTION

- 1.1 Background
- 1.2 Objectives
- 1.3 Project Structure

2.0 PROJECT DIRECTION

- 2.1 Responsibility
- 2.2 Project Management Interface
- 2.3 REP Management Process

3.0 PROJECT REQUIREMENTS

- 3.1 REP Subproject Execution Schedules
- 3.2 Schedule of Subproject Reviews
- 3.3 Schedule of REP Meetings
- 3.4 REP Subprojects Identification and Approval Schedule
- 3.5 Subproject Nomination/Selection Process
- 3.6 Prioritization and Development of REP Subproject Priority List

4.0 PROJECT FUNDING

- 4.1 REP Subproject Budget
- 4.2 Obligation and Expenditure (O&E) of Funds
- 4.3 Allocation and Distribution of Funds
- 4.4 Extension of Funds
- 4.5 Redistribution of Funds
- 4.5 Financial Analysis
- 4.6 Programmatic Funding Guidelines

5.0 OTHER ACTIVITIES

- 5.1 REP Subproject Documentation and Reports
- 5.2 Database Management

Attachment - Quad Charts for each funded subproject

The PMP will contain the following statement of understanding:

This Project Management Plan, along with the Test Package Directive, constitutes a project baseline and understanding between the REP WG Chairman and the CTEIP PEM. The REP subprojects' performance will be measured against the schedule and funding baseline described in this PMP.

Appendix F

RESOURCE ENHANCEMENT PROJECT TEST PACKAGE DIRECTIVE Format and Contents

The Resource Enhancement Project (REP) Test Package Directive (TPD) is prepared by the REP Working Group (WG) Chairman and forwarded to the Service or Defense Agency as a requirements document for developing a test capability (funded at \$1M or more in any execution year or \$5M over the duration of the subproject).

The REP TPD will contain the following:

- **Cover Page:**
 - Program Element: 0604940D (CTEIP P.E. Number)
 - Date: (Date TPD is signed) (Initial/Revision #)
 - REP WG Member: Name, organization, address and phone number for current Service or Defense Agency WG Member.
 - Subproject Name / Abbreviated Name: Name and abbreviated name are found in the submittal package quad chart.
- **Subproject Description:** Taken from the submittal package Quad Chart and briefing. Provides background information, a technical description that will clearly portray what the subproject is, the technical approach to be taken, the required performance characteristics and what must be accomplished to develop the capability. Includes a description of the overall project if the REP subproject is only a portion of the effort.
- **Subproject Direction:** Describes how the subproject will be organized/managed/executed.
- **Schedule Requirements:** Provides key milestones for the implementation of the subproject extracted from the submittal quad chart and briefing.
- **Subproject Funding:** Provides a funding profile based on the latest approved budget and funds distribution.
- **Special Instructions:** Provides instructions for the Subproject Manager regarding the submission of Subproject Management Plan (SMP), O&E Plan/Spend Plan, and reporting of breach/cost deviation, and other financial, technical, and programmatic status of subproject as described in Sections 4.3.4, 4.3.5, 4.4, 4.5, 4.6, 4.8, and 4.9 of the REP Planning and Execution Guide (PEG).

Statement of Understanding: Includes the statement: “This TPD, together with the approved SMP, constitutes the subproject baseline and a contract between the REP WG Chairman, the OTICC, the REP WG Member, and the Subproject Manager / Executing Activity. Any issue or disagreement with this TPD will be provided to the REP WG Chairman within two (2) weeks of this issuance. The SMP shall be amended with the concurrence of the signatories on any significant change to the execution of the subproject described herein.”

Signature: Signature block for the REP WG Chairman

Appendix G
RESOURCE ENHANCEMENT PROJECT
SUBPROJECT MANAGEMENT PLAN
Format and Contents

This appendix provides the format and contents guidance for the Resource Enhancement Project (REP) Subproject Management Plan (SMP). The SMP will provide the subproject description; identify the procedures, methods, and technology that will be used to develop or acquire the needed test capability; identify required funding, spending plans, the milestone schedule; and describe how the subproject will be managed and executed.

The SMP will be prepared in a concise yet complete manner and should not exceed 20 single-spaced pages. It should be prepared considering the guidance addressed below and in the REP SMP Checklist, Appendix H of the REP Planning and Execution Guide (PEG). Appendix H provides a questionnaire to assist the Subproject Manager in preparing and assessing the completeness of the SMP.

The SMP should be submitted to the REP Working Group (WG) Chairman for approval within 60 days from approval of the Test Package Directive (TDP). It should be submitted by the Subproject Manager, with the concurrence of the REP WG Member, and OTICC Principal. An electronic copy of the SMP will be provided to the REP WG Chairman within 10 days from receipt of the approved SMP. The electronic copy can be provided via electronic mail or 3.5" PC formatted disk. The approved SMP will constitute a contract between the Service or Defense Agency and the REP WG Chairman) documenting the manner by which subproject execution will occur.

The SMP will contain the following.

(1) COVER PAGE: This page will include:

- **Header:** The header will be:

RESOURCE ENHANCEMENT PROJECT
SUBPROJECT MANAGEMENT PLAN
FOR

(NAME OF SUBPROJECT)

(Use the subproject name in the REP Test Package Directive)

- **Logo** (if any)
- **Prepared by:** Name of organization and Service or Defense Agency having management responsibility for the subproject.
- **Document Date:** Date submitted by the REP Subproject Manager
- **Document Number / Initial Submission / Revision Number:** (if any)

(2) SIGNATURE PAGE: This page will include:

- **Subproject Name:** The same as the cover page.
- **Date:** The same as the cover page.
- **Document Number / Initial Submission / Revision Number:** The same as the cover page.
- **Executing Activity / Service or Defense Agency:** The same as the cover page.
- **Submitted By:** Signature block for Subproject Manager. Include phone, facsimile and electronic mail (e-mail) address of the Subproject Manager
- **Concurred In:** Signature block for REP WG Member. Include phone, facsimile and e-mail address of the WG Member
- **Date:** Date block when the document was concurred in by the REP WG Member
- **Concurred In:** Signature block. Include phone, facsimile and e-mail address of the OTICC Principal
- **Date:** Date block when the document was concurred in by the OTICC Principal
- **Approved By:** Signature block for REP WG Chairman
- **Date Approved:** Date when document was approved by the REP WG Chairman

(3) TABLE OF CONTENTS (with page numbers)

(4) LIST OF FIGURES AND TABLES (if any)

(5) BODY: The body of the document will include and address the following sections:

1.0 SUBPROJECT DESCRIPTION (1 - 4 pages): This section will provide background information, a technical description that will clearly portray what the subproject is, the technical approach, and what must be accomplished to develop the capability. This must relate to the subproject description in the REP Subproject Quad Chart.

1.1 Background

1.2 Technical Description and Approach

1.3 Operational Tests to be Supported

1.4 Subproject Status (if this a continuation of last FY effort)

2.0 CRITICAL / KEY ISSUES (1 - 3 pages): This section will include issues involved in developing and implementing the subproject and should address the following:

2.1 Issues/Problems

2.2 Other External Factors

3.0 MANAGEMENT APPROACH (4-6 pages): This section will describe how the Subproject Manager will allocate resources and manage the subproject. This section will include the following:

- 3.1 Subproject Organization**
- 3.2 Management Interface**
- 3.3 Technical Management**
- 3.4 Risk Management**
- 3.5 Acquisition Strategy**
- 3.6 Cost Control**
- 3.7 Activation**

4.0 FUNDING (2 - 4 pages): This section will describe the funding resources required to implement the subproject and a plan as to how they are projected to be obligated and expended. It includes the following:

- 4.1 Funds Required**
- 4.2 Obligation and Expenditure (O&E) Plan**
- 4.3 Shared Funding**

5.0 SCHEDULE (2 - 4 pages): This section will provide the scheduling information required by the Subproject Manager to efficiently schedule all subproject activities, measure progress, correct slippage, and report deviations from the schedule. The SMP schedule should be consistent with that in the REP Subproject documentation. The following is required:

- 5.1 Milestone Chart**

STATEMENT OF UNDERSTANDING

This Subproject Management Plan, along with the Test Package Directive, constitutes a contract between the Subproject Manager/Executing Activity, REP WG Member, OTICC Principal, and REP WG Chairman, in that the REP WG Member is ready to take on the subproject as described, and the REP WG Chairman is ready to provide funding and accept the Subproject Manager's acquisition approach. The requirements statement, technical goals/capabilities, schedule, and funding as stated in the SMP constitute a subproject baseline. Subproject performance will be measured against this baseline.

6.0 LIST OF ACRONYMS - List all acronyms and what they stand for.

Appendix H
RESOURCE ENHANCEMENT PROJECT
Subproject Management Plan
Checklist

This checklist complements the Subproject Management Plan (SMP) Format and Contents, Appendix G of the Resource Enhancement Project (REP) Planning and Execution Guide (PEG), and should be used by the Subproject Manager in preparing and evaluating the completeness of the SMP.

COVER PAGE	YES	NO	N/A
Did you include the header, logo, and name of Service/Agency/organization that has management responsibility for the subproject, document date and number in the cover page?			
SIGNATURE PAGE	YES	NO	N/A
Did you prepare and include a signature page? The signature page should include the subproject name, date of document, document number/revision, name of Subproject Manager, REP WG Member, Service/Agency Principal, REP WG Chairman, dates when they were signed, and when document was approved.			
TABLE OF CONTENTS	YES	NO	N/A
Did you provide the table of contents?			
LIST OF FIGURES AND TABLES	YES	NO	N/A
Did you incorporate the list of figures and tables, if any?			
1.0 SUBPROJECT DESCRIPTION: (1-4 Pages)			
1.1 Background:	YES	NO	N/A
Did you provide enough background information or specify the need or requirement for this subproject?			
Did you provide information regarding the related studies and analyses that were used in determining the concept/approach for this subproject?			
Did you address the critical operational issues and criteria?			
Did you describe the milestone decisions that will be impacted?			
Have you described how the performance characteristics would relate to satisfying the current/long-term operational test requirements?			

Did you include payoffs and benefits for developing this capability?			
Have you described the feasibility of transporting or replicating the capability at other test locations?			
Did you provide information as to how many units will be needed, why is it needed, and where will they be located?			
Have you described the impact to the program(s) to be supported if this capability is not available?			
Have you provided the rationale as to why you are requesting REP funds to procure, develop or test this capability?			
1.2 Technical Description and Approach:	YES	NO	N/A
Have you provided the technical and performance characteristics of this subproject?			
If REP is funding only a portion of a larger project: a) Has the description of the entire project been provided? b) Did you provide specific detail as to what is being developed or acquired with REP funds?			
Did you describe the key hardware and software interfaces to be used in developing the capability or the interface that will be required with other systems or capabilities?			
Does the technical description of the subproject match the technical description in the TPD? If not, did you provide the reasons why?			
Did you include name of organization/company and location where the capability is being developed?			
Did you specify the deliverables and what is to be accomplished for this fiscal year of REP funding?			
1.3 Operational Tests to be Supported:	YES	NO	N/A
Did you identify the programs and operational tests (OTs) that will be supported?			
Did you identify the ACAT of the programs to be supported?			
Did you identify the type of OTs to be supported?			
Did you identify the test date of the OTs to be supported?			
Do the programs and OTs to be supported match the REP Quad Chart?			

1.4 Subproject Status (if this is a continuation of last FY effort):	YES	NO	N/A
Did you describe what has been procured, developed or accomplished using the funding from the previous year(s)? (This could be combined with Section 1.2.)			
Did you describe what test had been completed and major milestones that were accomplished using the funding from the previous year(s)?			
Did you provide the current status (work in progress) of this subproject?			
Did you describe the tasks to be performed or accomplished using the current year funding for this subproject? (This could be omitted if information has already been provided in Section 1.2)			
2.0 CRITICAL/KEY ISSUES (1 - 3 pages):			
2.1 Issues/Problems:	YES	NO	N/A
Did you address the issues/problems (current or anticipated) that may impact the development of this capability?			
Did you address potential risk areas that may be critical to the overall subproject performance?			
Did you provide a recommendation for workarounds or solutions that are required to resolve the problems or potential issues?			
2.2 Other External Factors	YES	NO	N/A
Does the subproject depend on completion of other related efforts, such as separately funded construction, availability of test resources, pending legislation, etc.? If yes, did you provide this information in the SMP?			
Does the subproject depend on the availability of GFE/GFM from other Services/Agencies/organizations? If yes, did you describe in the SMP what GFE/GFM will be required, and when will they be available, and who will be providing them? (Funding of transport/refurbishment of GFE/GFM is included in Section 3.5)			
Are there any environmental issues? If yes, did you provide this information in the SMP?			

3.0 MANAGEMENT APPROACH : (4-6 pages)			
3.1 Subproject Organization:	YES	NO	N/A
Did you indicate the name of the organizations (Service, Defense Agency, and contractors) that are involved in developing this capability?			
Did you describe the responsibility, participation, and involvement of Services, Defense Agencies, and contractors in the execution of the subproject?			
Did you identify the Subproject Manager?			
Did you identify the financial point of contact?			
3.2 Management Interface:	YES	NO	N/A
Did you describe how communications and coordination between Services, Defense Agencies, other organizations, and contractors would be done?			
Did you describe if there are procedures or formal agreements that have been instituted for coordination and resource sharing with other Services, Defense Agencies, other organizations, and contractors?			
Does any dependency or relationship exist with other REP subprojects and/or CTEIP projects? If yes, did you provide the details on how communications and coordination with other subprojects/projects will be performed?			
Did you describe how the subproject status, technical and funding issues, and deviations from the schedule would be reported to the REP WG Chairman?			
3.3 Technical Management:	YES	NO	N/A
Did you identify the Service, DoD Agency, government organization or contractor that will have the technical management responsibility?			
Did you describe the specification control procedures?			
Did you address how the performance baseline, configuration, and technical documentation will be monitored or maintained?			
Did you address what measures are being taken to ensure compliance with DoD open systems architecture requirements?			
Did you describe any technical or design reviews that will be conducted and how often?			

3.4 Risk Management:	YES	NO	N/A
Did you indicate the technical risk and other risk elements involved in the subproject?			
Did you include the contingency plan if risk elements are involved?			
Did you identify the objectives established and methods to continuously assess risks?			
Did you describe how risks would be mitigated?			
3.5 Acquisition Strategy:	YES	NO	N/A
Is there an acquisition plan?			
If yes, did you describe the process and contract management approach? Have you identified who approves the acquisition plan?			
Have you identified every contract associated with this subproject, to include contract type and period of performance?			
Did you describe the portion of the effort to be performed in-house and the work to be done by the contractor?			
Is there a plan for making available any GFE/GFM to contractors?			
Did you provide information if you will be acquiring any GFE/GFM from other Services/Agencies or organizations? (This could be omitted if information is already provided in Section 2.2.)			
Did you identify who will fund the transport, refurbishment, and tracking of GFE/GFM?			
3.6 Cost Control:	YES	NO	N/A
Did you include the program cost control function? If one has not been established, did you describe the process on how this will be done?			
Did you address how cost, performance, and schedule will be tracked, monitored, and measured against baseline performance and reported to the REP WG Chairman?			
3.7 Activation:	YES	NO	N/A
Did you include the test assets and resources that are required to test, demonstrate, and certify the capability?			

Did you describe how the subproject will be transitioned to full operational capability?			
Did you provide information or document the coordination with the receiving agency/organization that will have the responsibility for sustained operation and maintenance (O&M) of the capability?			
Did you include estimates for O&M or follow-on funding in the event that continued use of the capability is required or additional quantity is needed to satisfy the OT requirements?			
4.0 FUNDING: (2 - 4 pages)			
4.1 Funds Required:	YES	NO	N/A
Have you included the REP funding required, by fiscal year through subproject completion, for in-house contracts and other supporting organizations?			
<p>Did you provide a funding breakdown, by fiscal year, for the following level of effort, i.e., a spend plan?</p> <ul style="list-style-type: none"> • Subproject management. List all the government organizations and contractors and include amount to be provided. • Design/engineering. Include amount to be allocated for design, analysis, test, integration, and installation for in-house and contractors. • Fabrication/equipment. List the HW/SW to be developed/procured; include amount to be allocated for each HW/SW element (for in-house and contractors). • Construction. Special funding documents must be submitted. • Activation. 			
Did you clarify if the funds required (for each breakdown /level of effort identified above) will be apportioned in the O&E plan as monthly/bi-monthly/quarterly/yearly, etc. This will explain any unusually high expenditure in the O&E during the execution of this fiscal year's funds.			

4.2 Obligation and Expenditure (O&E) Plan:	YES	NO	N/A
Did you include a monthly forecast of all obligations and expenditures (up to 100% obligations and expenditures) for the current fiscal year REP funds? (This should be the same as the O&E plan included in the REP subproject documentation. If there is a change, did you annotate and provide explanation?)			
Is the O&E plan consistent with the REP subproject documentation?			
If there is a change in the O&E, did you annotate and provide explanation?			
Did you provide actuals for previous year(s) O&E (if this is a continuation of last FY effort)?			
4.3 Shared Funding:	YES	NO	N/A
For projects requiring shared funding, did you identify the amount, source, type, and purpose?			
Does the amount of the shared funding provided in this SMP matches the amount in the REP Quad Chart? If not, did you clarify why?			
Did you provide the reasons for the shared funding and the results to be achieved from the different funds, including REP funds?			
Did you explain how the funding from the different sources is integrated into the subproject plan, as well as how interdependency issues maybe avoided?			
Is there any impact to the subproject effort and schedule if any portion of the shared funding is withdrawn? If impact will be a key/critical issue, this could be addressed in Section 2.3			

5.0 SCHEDULE: (2 - 4 pages)			
5.1 Milestone Chart	YES	NO	N/A
<p>Have you included a milestone chart (not a bar chart) with standard symbols and listed applicable milestones such as:</p> <ul style="list-style-type: none"> • Subproject initiation • Requirements definition/Concept definition • DRFP/RFP release (if any) • Major contract awards (if any) • Requirements/design reviews (SDR, PDR, CDR, FCA/PCA) • Fabrication/integration/installation/construction • Acceptance testing • Operational capability (OC) • Full operational capability (FOC) • Other scheduled subproject reviews and major decision points 			
Does the milestone match the schedule reflected in the Quad Chart and TPD?			
If the milestone does not match the schedule reflected in the TPD, did you provide explanations for the change in schedule?			
Will the schedule support the OTs mentioned in Section 1.3?			
Is the subproject executable, and can it attain OC on the proposed schedule with the funds identified?			
If this is a continuation of last FY effort, did you maintain key milestones across SMP updates and include estimated as well as actual date of completion?			
If this is a continuation of last FY effort and you did not maintain key milestones across SMP updates, did you provide explanations for variations and slippage in the schedule?			
If this is a continuation of last FY effort and you did not maintain key milestones across SMP updates, did you provide recommendations for workarounds if OTs to be supported were impacted?			
STATEMENT OF UNDERSTANDING	YES	NO	N/A
Did you include the statement of understanding?			
LIST OF ACRONYMS	YES	NO	N/A
Did you list all acronyms and what they stand for?			

Appendix I
RESOURCE ENHANCEMENT PROJECT
MONTHLY REPORT FORMAT

This form will be used by the Subproject Manager in reporting the actual obligations, expenditures, accruals, and disbursements; the major accomplishments and milestones achieved during the preceding month; upcoming events; any technical, funding, and schedule problems; any deviations from the subproject baseline; and any actions or decision required.

REP MONTHLY REPORT
For Month Ending _____

SUBPROJECT NAME: _____

FISCAL YEAR	FUNDS RECEIVED	OBLIGATED	ACCRUED	DISBURSED	EXPENDED (ACCR+DISB)
Indicate Fiscal Year	Indicate the amount of funds received	Indicate total amount obligated to date	Indicate total amount accrued to date	Indicate total amount disbursed to date	Total of accrued and disbursed amounts to date

MONTHLY ACTIVITIES: Provide summary of activities or status of work in progress.

MAJOR ACCOMPLISHMENTS: Describe work accomplished, problems encountered and resolved, milestones achieved, contract awards.

UPCOMING EVENTS: Provide upcoming events and milestones. Include the work to be accomplished. . Include significant meetings or important events that could impact work schedule or execution of contract.

PROBLEMS/RECOMMENDED SOLUTIONS: Describe any technical, schedule, or funding problems, issues, or risk areas. Provide rationale and cause for slippage or deviations from plans (if any). Include recommended solution to resolve problems and issues.

FINANCIAL EXECUTION: Describe contract performance and funding status. Include an explanation if O&E deviate more than 10% from the O&E plan provided in the PMP/SMP. Include any pending contract awards that exceed 20% of subproject funding.

ACTIONS/DECISIONS REQUIRED: Include any requests for actions or decisions and the name/organization that will provide required action or decision.)

Subproject Manager: (Signature Block) Telephone: _____

Financial Manager: (Signature Block) Telephone: _____

Appendix J

RESOURCE ENHANCEMENT PROJECT (NAME OF SUBPROJECT) Final Report

The outline below is provided to assist the Subproject Manager in preparing the Final Report. This report will be submitted to the REP WG Chairman 90 days after the subproject has achieved operational capability.

- **Description of Final Capability:**
 - Performance
 - Technical
- **Operational Tests or Programs Supported:**
 - Indicate when IOC was achieved
 - Enumerate the OTs that were supported to highlight success of subproject
- **Gaining Organization:**
 - Identify the gaining organization. Include point of contacts with complete address and phone numbers
 - Funding Plan for sustained operation/additional item procurement (if appropriate)
 - Identify where funds are being obtained
- **Funding Profile**
 - Provide REP funding profile by fiscal year. Include actual Obligations and expenditures
- **Funds Distribution:**
 - Identify how REP funds were distributed for each fiscal year.
 - Specify Government organizations or Contractors
 - Include Contractor name, type of contract, actual cost to include fees (if any)
 - Provide POCs (Government and Contractor oversight agency (COTR) with complete address and phone numbers)
 - Provide geographical location where work was performed
- **Lessons Learned:**
 - Provide and describe lessons learned (i.e., problems encountered and how they were resolved) related to:
 - Overall Planning
 - Execution
 - Transition

Subproject Manager: (Signature Block)

Date: (Date Block)

REP WG Member: (Signature Block)

Date: (Date Block)

Appendix K

LIST OF ACRONYMS

BMDO	Ballistic Missile Defense Organization
CDR	Critical Design Review
COI	Critical Operational Issue
COIC	Critical Operational Issue and Criteria
FOT&E	Follow-on Operational Test and Evaluation
CTEIP	Central Test and Evaluation Investment Program
DDDR&E(T&E)	Deputy Director, Defense Research and Engineering (Test and Evaluation)
DIA	Defense Intelligence Agency
DISA	Defense Information System Agency
DOT&E	Director, Operational Test and Evaluation
DT&E	Director, Test and Evaluation
DTTSG	Defense Test and Training Steering Group
FCA	Functional Configuration Audit
FMU	Foreign Materiel Utilization
FOC	Full Operational Capability
FOT&E	Follow on Operational Test and Evaluation
FY	Fiscal Year
GFE	Government Furnished Equipment
GFM	Government Furnished Material
HW	Hardware
IOC	Initial Operational Capability
IOT&E	Initial Operational Test and Evaluation
JITC	Joint Interoperability Test Command
MDAP	Major Defense Acquisition Programs
MOU	Memorandum of Understanding
NAR	Nomination Assessment Report
O & E	Obligation and Expenditure
O & M	Operation and Maintenance
OSD	Office of the Secretary of Defense.
OT	Operational Test
OT&E	Operational Test and Evaluation
OTA	Operational Test Agencies
OTICC	OSD Test Investment Coordinating Committee
OUSD(AT&L)	Office of the Under Secretary of Defense (Acquisition, Technology, and Logistics)
PCA	Physical Configuration Audit
PDR	Preliminary Design Review
PEG	Planning and Execution Guide
PEM	Program Element Manager
PMP	Project Management Plan

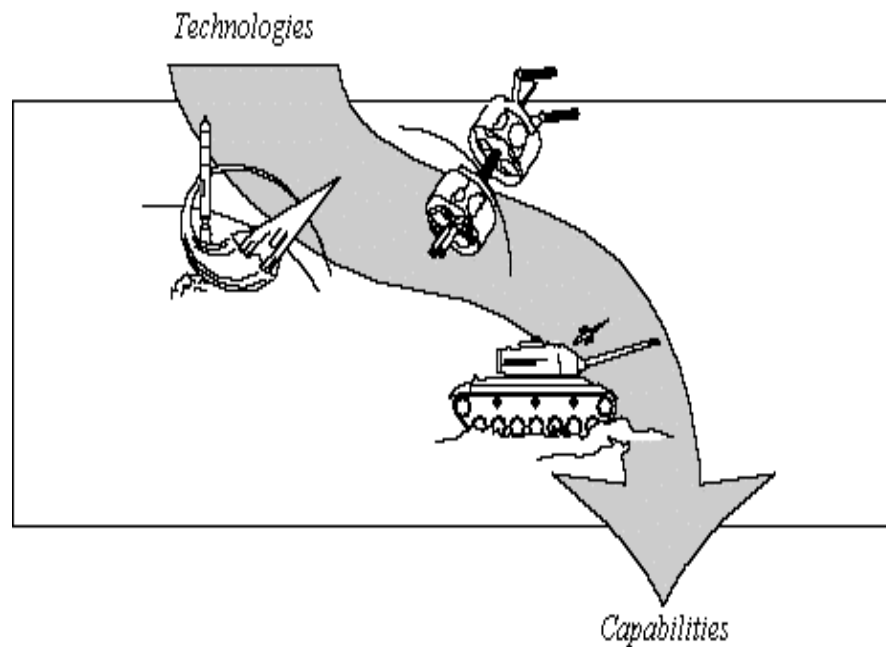
POC	Point of Contact
R&R	Resources and Ranges
RAMIS	REP Automated Management Information System
REP	Resource Enhancement Project
RFP	Request for Proposal
ROM	Rough Order of Magnitude
SMP	Subproject Management Plan
T&E	Test and Evaluation
TEMP	Test and Evaluation Master Plan
TPD	Test Package Directive
WG	Working Group

ANNEX K

TEST TECHNOLOGY DEVELOPMENT AND DEMONSTRATION PROJECT PLANNING AND EXECUTION GUIDE

The Test Technology Development and Demonstration Project Planning and Execution Guide is included in its original format and pagination as Enclosure 1 to this Appendix.

TEST TECHNOLOGY DEVELOPMENT AND DEMONSTRATION PROJECT PLANNING AND EXECUTION GUIDE



CENTRAL TEST AND EVALUATION INVESTMENT PROGRAM

April 2000

Enclosure 1 to Appendix K

**Test Technology Development and Demonstration
Planning and Execution Guide
April 2000**

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FOREWORD

This project procedural manual has been prepared to assist members of the test and evaluation community in understanding the purpose, management, and administrative procedures of the Test Technology Development and Demonstration project within the Central Test and Evaluation Investment Program (CTEIP). This manual provides overall policy guidance and procedures and is applicable to all subprojects proposed and funded under the TTD&D project. It outlines procedures for submitting TTD&D subproject proposals for consideration and approval, as well as delineates the selection process and reporting requirements for those projects.

The first section, Project Description, provides an overview of TTD&D's background, objectives, and project structure. The second section, Management Approach, describes the approach used in managing the TTD&D project as well as the functions of the various parties responsible for the planning and execution of the overall TTD&D project and its subprojects. Section 3, TTD&D Nomination and Selection Process, discusses the criteria for selection, and provides an overview of the submission, review and selection of the subprojects. The fourth section of this manual, Project Execution, covers the management of approved subprojects as well as technical and financial aspects of the project.

This manual will be reviewed annually by the TTD&D Project Director and CTEIP Program Element Manager. Any recommended changes to this manual should be addressed to the TTD&D Project Director for consideration

1.0 PROJECT DESCRIPTION

1.1. Background

The Department of Defense constantly updates its warfighting inventory with new and modified weapon systems and equipment. As budgets are reduced and performance expectations of warfighting systems have increased, it has become increasingly difficult to conduct testing, both developmental and operational, of these systems. Consequently, the Department of Defense has had to look to technology to mitigate these increased risks. In the early 1990's, the CTEIP began funding the Test Technology Development and Demonstration project as one of its on-going Joint Improvement and Modernization (JIM) projects in response to the need for risk mitigation.

TTD&D projects are CTEIP investments in technologies that will reduce technical risk in testing for future weapon programs. There are two categories of TTD&D technologies: Range Instrumentation and Test and Range Architecture. Range Instrumentation and Test includes those technologies that provide improved test and evaluation instrumentation or process capabilities. Range Architecture includes technologies that support the development of common range interoperability through the use of standard interfaces. These interfaces will simplify asset sharing among the Services, lower the cost of testing, and facilitate economy of scale procurements, thereby lowering system upgrade costs.

Technologies are developed under the Military Service and Defense Agency 6.1, 6.2 and 6.3 programs for weapons systems, or equivalent government or commercial research and development programs and are often directly applicable to improvements in the Department of Defense's ability to test and evaluate those weapons systems. The 6.1 Program category funds research, which includes scientific study and experimentation, directed toward increasing knowledge and understanding in those scientific fields that are related to national security needs. It provides fundamental knowledge for the solution of identified military problems. The 6.2 Program category funds exploratory development that includes efforts directed toward solving specific military problems from fairly fundamental applied research to sophisticated prototype hardware study, programming, and planning efforts. The 6.3 Program category funds advanced development that includes all projects that have moved into developing hardware and nonmaterial technological prototypes or techniques.

1.2. Objective

The overall objective of the TTD&D project is to facilitate the transition of mature technology from laboratories to the T&E community for the purpose of enhancing test capabilities and reducing technical risk in the testing of future defense systems. Goals and objectives of the project are reviewed on an annual basis and strategic "thrust areas"

are identified to ensure they support:

- National T&E/Training/Warfighting priorities
- DoD guidance and policy as published in the Defense Technology Area Plan
- Evolving technologies focused on T&E/Training / Warfighting
- Current and future T&E / Training/Warfighting capabilities

1.3. Project Structure

The TTD&D project encompasses a number of subprojects each year. Each year, approximately \$6M - \$8M are set aside within the CTEIP to fund TTD&D. Subprojects selected for funding under this project are expected to be available for transition to the field use within three years from initial TTD&D funding and are generally limited to less than \$500,000 per year. New TTD&D subprojects are selected each year to maintain the flow of technologies from the laboratory environment to the test community.

2.0 MANAGEMENT APPROACH

2.1. Management Overview

TTD&D, by design, is a centrally-planned and funded project with decentralized execution of individual approved subprojects. DOT&E has the overall responsibility for the planning and execution of the project. Subproject Directors have the responsibility of managing the day-to-day execution and planning of their perspective projects, with oversight from the TTD&D Project Director and CTEIP Program Element Manager (PEM).

2.2. Management Responsibilities

2.2.1. CTEIP PEM

The CTEIP PEM, who is appointed by the Deputy Director, Operational Test and Evaluation, Resources and Ranges (DDOTE/RR) and serves as the Executive Secretary of the OSD Test Investment Coordinating Committee (OTICC), has overall responsibility for the TTD&D project. The CTEIP PEM will:

- a. Issue policy guidelines and direction, in coordination with the OTICC, for the administration of the TTD&D project.
- b. Approve, in coordination with the OTICC, the yearly funding profile of the project.
- c. Issue a Test Package Directive providing specific instructions for the execution of the TTD&D project.
- d. Designate a TTD&D Project Director to oversee the project's day-to-day activities.

2.2.2. TTD&D Project Director

The TTD&D Project Director is appointed by the CTEIP PEM and will:

- a. Manage the day-to-day operations of the project.
- b. Develop an overall Project Management Plan (PMP) for submission and approval to the CTEIP PEM.
- c. Coordinate the TTD&D subproject nomination, evaluation and selection process.
- d. Develop a funding profile, to include continuing and proposed new start subprojects, for submission and approval to the DDOTE/RR through the CTEIP PEM, in coordination with the OTICC.
- e. Develop an overall project spend plan based on input from the Service/Agency's subprojects.

- f. Provide specific execution instructions in the form of a Letter of Instruction (LOI) to subprojects being funded under TTD&D.
- g. Prepare an overall Annual Assessment Report summarizing the accomplishments of each subproject and the utility for continuing the subproject in the ensuing year based on input provided by the Subproject Directors.
- h. Conduct reviews, as deemed appropriate, to assess the status of executing subprojects.
- i. Prepare and present a TTD&D project status brief at the annual CTEIP Mid-Year Review.
- j. Attend OTICC meetings, as required.
- k. Chair the TTD&D Working Group.

2.2.3. TTD&D Service/Agency Coordinator

Each Military Service and Defense Agency has a coordinator for the subprojects managed under that Service or Agency. The Service/Agency Coordinators are the primary points of contact for the TTD&D Project Director to ensure proper planning and execution of each subproject. The Service/Agency Coordinators will:

- a. Serve as a liaison between the TTD&D Project Director and the Subproject Directors.
- b. Assume responsibility for the execution and management of approved TTD&D subprojects under their cognizance.
- c. Actively seek to identify and evaluate potential candidates for funding under this project.
- d. Submit prioritized TTD&D proposals in response to DOT&E's annual TTD&D call letter.
- e. Coordinate final reports from the Subproject Directors on technologies developed and demonstrated.

2.2.4. Subproject Director

The Subproject Director will:

- a. Prepare and forward the Monthly Report of actual obligations and expenditures and subproject status (performance, cost, and schedule). Monthly Reports are due to the TTD&D Project Director 20 calendar days after the end of the month being reported.
- b. Maintain a complete historical record of obligations and expenditure data for the subproject.
- c. Prepare and present a project status briefing at the TTD&D Mid-Year Review that is normally held in February or March of each year.

- d. On an annual basis, conduct and submit through the Service/Agency Coordinator to the TTD&D Project Director a self-assessment of the subproject.

3.0 TTD&D NOMINATION AND SELECTION PROCESS

3.1. TTD&D Nomination Process

The TTD&D Nomination Process is initiated by the issuance of a Call for Proposal memorandum signed by the TTD&D Project Director. This memorandum is usually issued in the February timeframe of each year, calling for subprojects to begin in the next fiscal year. The call memorandum identifies the areas of special interest for technology improvements based on DoD instrumentation needs or initiatives. Proposals should be submitted to DOT&E through the Service or Agency formal chain of command to the Service/Agency Coordinator. Service/Agency Coordinators, in coordination with their OTICC Representative, are responsible for reviewing and prioritizing the proposals before submission to DOT&E. DOT&E will then forward the proposals to the TTD&D Working Group for review.

The format for the Candidate Nomination Proposal can be found at Appendix A.

3.1.1. Selection Process

Developing and maintaining proper guidelines for evaluating new candidate projects are the foundation for the success of the TTD&D Project. The guidelines for evaluating TTD&D subprojects are based on an in-depth understanding of national T&E/Training/Warfighting priorities, DOD guidance and policy, evolving technologies focused on T&E/Training/ Warfighting, and current and future T&E/Training/ Warfighting capabilities as forecasted by DOD and Service/Agency acquisition programs. The TTD&D project provides the potential for improvements to DoD T&E projects to meet the challenges of testing and training/employment of future weapons systems.

The proposal analysis and ranking process requires extensive engineering analysis of the candidate subprojects, using the criteria developed for the current year. An initial screening by the TTD&D Project Director and TTD&D Working Group will be conducted to ensure the set of proposals are complete and in general compliance with TTD&D guidance and priorities as stated in the call letter. This initial screening also ensures a complete understanding of the technology being pursued and its potential benefit to the testing and training communities. Proposals needing further information to gain a better understanding of its intended capability will be returned to the submitting agency for further development. Proposals are also carefully considered to see if the technology development would be more appropriately funded by another organization. Proposals that meet the initial screening criteria will be included in the final evaluation phase. A summary assessment, detailing the compliance of each subproject with the call letter's stated goals, is used to document the results of each subproject's initial screening.

During the evaluation phase, a comprehensive analysis is conducted by the TTD&D Working Group to compare and rank the competing candidate proposals. For each

TTD&D project goal identified within the call letter, a specific ranking of the evaluation of each proposal is completed. Costs and risks are carefully assessed as part of this process. Based upon the TTD&D budget and the required funding for each candidate proposal, the top subprojects are then recommended to the CTEIP PEM, in coordination with the OTICC, for inclusion in the ensuing year CTEIP funding profile. Based upon the completed analyses and the recommendations of the CTEIP PEM, in coordination with the OTICC, the DDOT&E/RR will make a final determination and recommendation to the Director, Operational Test and Evaluation (DOT&E) for approval.

3.2. Out-of-Cycle Proposals

The review and approval for out-of-cycle TTD&D proposals shall be managed on a case-by-case basis, conforming to the basic structures as described in this manual.

4.0 SUBPROJECT EXECUTION

4.1 Subproject Initiation and Management

Annually during the August/September timeframe, the TTD&D Project Director will submit for approval to the DDOT&E/RR, through the CTEIP PEM, in coordination with the OTICC, the recommended subprojects to be funded under TTD&D for the upcoming fiscal year. Upon approval by the DDOT&E/RR and as directed within the TTD&D Test Package Directive, the TTD&D Project Director will commence the execution of the TTD&D project for the current fiscal year. The initiation of subprojects will be directed by the TTD&D Project Director through the issuance of a Letter of Instruction. The TTD&D Project Director has overall management responsibility of the TTD&D project; however, TTD&D Subproject Directors are responsible for managing the daily activities of his/her subproject.

4.2 Project Documentation

4.2.1 Letter of Instructions

When a subproject is selected for TTD&D funding, the TTD&D Project Director will prepare a Letter of Instruction (LOI). The LOI provides specific direction concerning the execution of the subproject to the responsible agent. There are five basic sections to the LOI.

- a. **Subproject Description.** This section gives a general description of the subproject based on the proposed test and evaluation capability and the key technical characteristics.
- b. **Subproject Direction.** This section provides a description of management responsibilities associated with the subproject and states how the subproject will be organized and executed.
- c. **Subproject Schedule Requirements.** This section contains the proposed subproject schedule as derived from the most recent.
- d. **Subproject Funding.** The section contains the funding profile that should be used for structuring the subproject. The profile is for planning purposes only and does not constitute budget authority.
- e. **Special Instructions.** This section contains information regarding the submission of reports, collection of funding data, and any specific instructions necessary for the execution of the subproject.

4.2.2. Monthly Reports

Subproject Directors are required to submit to the TTD&D Project Director a monthly status report for each TTD&D funded subproject. The monthly report should include actual obligation and expenditure data, major accomplishments and/or milestones accomplished during the month, and plans for the next reporting period. Any technical, funding, or schedule issues should also be identified in the report. Monthly reports are due no later than the 20th day following the end of the reporting month. (e.g., the report covering the month of January is due 20 February.) Subproject Directors should follow their organization's established policy and procedure for submitting information to a higher command.

The format for the Monthly Report can be found at Appendix B.

4.2.3. Annual Assessment Report

Subproject Director's are to submit an annual assessment report through their Service/Agency Coordinator to the TTD&D Project Director no later than the last working day in August. This assessment report should include the project's technical and financial status for the current year of execution, as well as the planned project execution for the upcoming year. Subsequent year funding will not be released without the submission of the Annual Assessment Report.

The format for the Annual Assessment Report can be found at Appendix C.

4.2.4. Subproject Final Report

Within 120 days after the completion of a subproject, the Subproject Director will prepare a final report. The report should provide a history of the subproject's execution, give a detailed description of the final capability or the technology developed or demonstrated, and identify payoffs and/or benefits of the project.

The format for the Subproject Final Report can be found at Appendix D.

4.3. TTD&D Reviews

Subprojects will be continuously reviewed for their potential to enhance test and evaluation, as well as their synergistic benefit to other CTEIP projects or instrumentation projects underway within the developmental test, operational test, training or warfighting communities. During each year, as well as at the completion of each subproject, a determination of its applicability to T&E/training/warfighting will be made.

4.3.1. TTD&D Mid-Year Review

In February or March of each year, the TTD&D Project Director will conduct a review of all TTD&D subprojects. This review, known as the TTD&D Mid-Year Review, consists of briefings by the Subproject Directors on the progress and status of each subproject in execution. The TTD&D Project Director uses the information presented at this review to provide programmatic direction or make mid-year financial adjustments to the subproject. In addition, this information is used to report on the overall status of the TTD&D project at the CTEIP Mid-Year Review.

The format and content requirements of the briefing slides for the TTD&D Mid-Year Review can be found at Appendix E.

4.3.2. Subproject Management Reviews

When deemed necessary, the TTD&D Project Director will conduct a Subproject Management Review (SMR) to assess the progress of a subproject or to address specific subproject issues and concerns. SMRs are often conducted to assist the TTD&D Project Director in making management decisions concerning the continued funding of a subproject which may not be executing as planned.

The format and content requirements of the briefing slides for the Subproject Management Review can be found at Appendix F.

4.3.3. On-Site Subproject Visits/Reviews

At least annually, the TTD&D Project Director will conduct a visit of the site(s) where the subprojects are being developed or implemented. The review will be scheduled through the TTD&D Working Group Representative. A status brief of all subprojects executing at the site shall be presented during the on-site visit.

4.4. Financial Management

4.4.1. Allocation and Distribution of Funds

Funds will be distributed as early in the fiscal year as possible. DOT&E will issue funds on an appropriate funds distribution document in accordance with the amounts specified and authorized by the TTD&D Project Director. Subprojects with lagging obligation and/or expenditure rates or with other programmatic may have their funding profile decreased by DOT&E at the recommendation of the TTD&D Project Director in coordination with the CTEIP PEM and the OTICC.

4.4.2. Redistribution of Funds

The Services/Agencies can transfer up to 10% or \$50K, whichever is less, of the budget

of any of their funded subprojects to any other funded subproject without the approval of the TTD&D Project Director. Notice must be provided in writing to the TTD&D Project Director, with full documentation of the amount of funds to be transferred, the originating subproject, the receiving subproject, and the new budgets for each subproject.

In the event that funds become available because of a subproject cancellation, unacceptable subproject execution or redirection, the TTD&D Project Director, in coordination with the TTD&D Working Group, will make recommendations on the best use of these funds. The CTEIP PEM will approve all final funds redistribution.

4.4.3. Obligation and Expenditure of Funds

The OSD Comptroller uses the obligation and expenditure rates of a program to measure how well it is fiscally executing based on established guidelines. Current OSD Comptroller guidance is that funds will be 100% obligated and 70% expended during the first fiscal year and 95% expended by the following year. Programs not meeting the OSD threshold are a prime target for reprogramming. In an effort to defend the CTEIP budget against reprogramming and because of the serious lag time in the processing of funding documents by the Defense Finance and Accounting Service, subprojects should maintain a current and accurate account of their subproject's obligation and expenditure data. This obligation and expenditure data should be submitted to the TTD&D Project Director in the subproject's Monthly Report.

4.4.4. Technical/Financial Analysis

The TTD&D Project Director will actively review technical progress and perform regular cost analysis and financial assessments of the TTD&D subprojects under execution.

APPENDIX A

TTD&D CANDIDATE NOMINATION PROPOSAL FORMAT

This appendix provides the format to be used when submitting a Candidate Nomination Proposal for a TTD&D subproject. The basic proposal should not exceed five single-spaced, typed pages, excluding any attached background information (e.g., brochures, photos, etc.) and briefly address all items. If information on a particular item is not applicable or available, so indicate.

COVER PAGE

TEST TECHNOLOGY DEVELOPMENT AND DEMONSTRATION
CANDIDATE NOMINATION PROPOSAL
FOR
(PROJECT TITLE)

Submitted by

(DATE)

CANDIDATE NOMINATION PROPOSAL
CNP

1. **TTD&D Description and/or Identification.** Describe the technology as well as the intended or actual use and/or value of the project.
2. **Requirement.** Identify the existing requirement that could be satisfied by the technology. If there is a Test and Evaluation Master Plan (TEMP), provide title, number, and date signed, include as an attachment in Section 9 of the CNP. Address the applicability of the TTD&D project to other DoD Components or Military Services and their interest and support for this project.
3. **Project Goal(s).** Specify the goal(s) of the development and demonstration project and describe how the candidate technology meets the stated requirement.
4. **Other Information.** This section should identify the prime contractor, principle investigator, and Service headquarters point of contact, with address and telephone number.
5. **Development & Demonstration Strategy.** Discuss the plan for development of the subject technology and demonstration that this technology has the potential for satisfying and the particular DoD T&E need against which this TTD&D project is nominated. The following will be addressed:
 - a. Provide a preliminary estimate of the quantity of the product that would be fielded, assuming that the decision is made to proceed to deployment.
 - b. Program element(s) that may be planned for supplementing TTD&D funding in the development and demonstration of this project.
 - c. Program element(s) that will fund the deployment; indicate funding by fiscal year.
 - d. Identify any other technology being developed and demonstrated to fulfill this requirement and/or ongoing research and development programs that have the potential to satisfy this need.

6. **Schedule**. Include milestones similar to those shown in the following example. (Where applicable, indicate where these milestones interact with other development or acquisition programs.)

SCHEDULE

	FYXX				FYXX				FYXX			
	1	2	3	4	1	2	3	4	1	2	3	4
TTD&D Project Initiation												
Contract Signed												
R&D Testing												
Data Analysis/Evaluation												
Final TTD&D Project Report												
Initial Operating Capability												

7. **Budgetary Information**. Tabular input with information similar to that shown in the following example:

BUDGETARY INFORMATION

	FYXX				FYXX				FYXX			
	1	2	3	4	1	2	3	4	1	2	3	4
R&D												
Test Instrumentation/Equip												
Data Reduction												
Test Operations												
Support Costs												
Contractor Support												
Shipping												
Travel												
Analysis and Evaluation												

	<u>FYXX</u>	<u>FYXX</u>	<u>FYXX</u>
Service Funding	\$XXX	\$XXX	\$XXX
TTD&D (CTEIP) Funding	\$XXX	\$XXX	\$XXX
Total	\$XXX	\$XXX	\$XXX

8. **Funding and/or TTD&D Project Point of Contact Information.** The following information is required to execute timely transmittal of funding documents and related program information:

Name, complete mailing address, and office/fax telephone numbers of the following:

- a. DoD Component or Military Service headquarters staff monitor.
- b. TTD&D Project Manager.
- c. Contact within local accounting and finance office responsible for contracting information for this TTD&D project.

9. **Background Information.** When available, attach information such as company brochures, summary test reports, project briefings, photographs, and other descriptive documentation. In addition, a copy of the applicable requirements documentation shall be attached.

APPENDIX B
TTD&D SUBPROJECT
MONTHLY REPORT FORMAT

A Monthly Report is due to the TTD&D Project Director by the 20th of each month. The Monthly Report depicted on the following page should be used. DOT&E will provide a Monthly Report template for all newly approved subprojects.

To assure consistency the definitions stated below should be used in completing the Report.

Obligations. The amount of an order placed, contract awarded, service rendered, or other transaction that legally encumbers a specified amount of an appropriation or fund for expenditures.

Accrual (Unpaid Expenditures). Cost incurred during a given period representing liabilities (amounts due and payable) for goods and services received, other assets acquired and performance accepted, prior to payment being made.

Disbursement (Paid Expenditures). Charges against available funds representing actual payment as evidenced by vouchers, claims, or other documents approved by a competent authority.

Expenditures. Total of accrual and disbursement.

SUBPROJECT NAME

Period Covering:

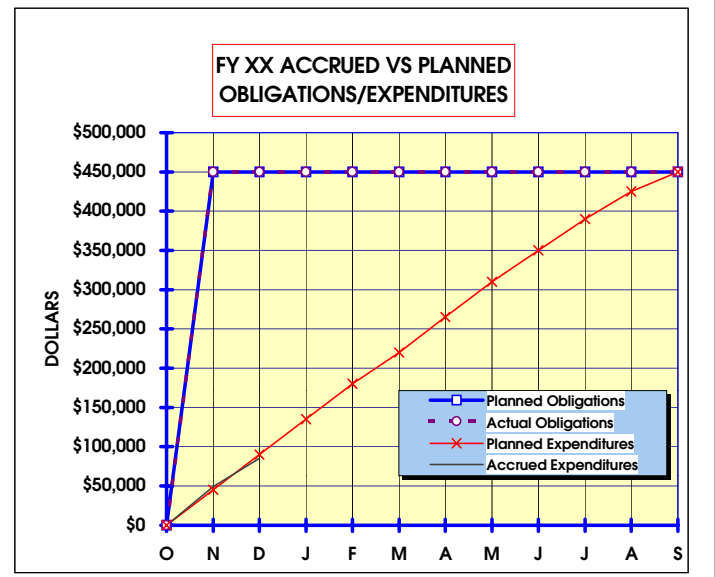
Lead Service:				DESCRIPTION
Fiscal Year	FY99	FY00	FY01	
Funding Planned				
Funded				
Funding Obligated				
Percent Obligated				
Funding Expended				
Percent Expended				

ESSENTIAL ELEMENTS OF INFORMATION			OSD/DOT&E	
	Yes	No	Notified	Approved
I. Meeting Requirements				
II. On Schedule				
III. Within Cost				
A. Overrun				
B. Scope Change				
IV. Adequate Funding				

KEY PERSONNEL	
HQ POC:	
Technical POC:	
E-Mail Address:	

PROJECT DATA	
Project Start	
Project End	
Plan Approved	
Last Review	
Next Review	

MILESTONES



Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep

Program Highlights

APPENDIX C

TTD&D SUBPROJECT ANNUAL ASSESSMENT REPORT

An Annual Assessment Report will be prepared by the Subproject Director and forwarded through his/her chain of command to the TTD&D Project Director no later than the last working day of August. The Report should include the following information:

TECHNICAL STATUS: Provide the technical status of the subproject to include summary description of activities and test results. Describe any technical problems, its causes and impact, and corrective action taken.

MAJOR ACCOMPLISHMENTS: Include contract awards, milestone achievements, and technical successes.

FINANCIAL EXECUTION: Describe if the subproject executed according to the spend plan. If not, provide the reason for the variance and describe what actions were taken or are being taken to meet the established goal.

SCHEDULE: Describe if the subproject is executing on schedule. If not, explain the reason for the schedule slippage and the impact that it will have on the subproject

APPENDIX D

TTD&D SUBPROJECT FINAL REPORT FORMAT

A final report is required of all TTD&D subprojects at the completion of TTD&D funding. The report should be forwarded through the Project Director's chain of command to the TT&D Project Director no later than 120 days after the completion of the project. The report should contain at a minimum information on the following topics. Additional items of interest can be included in the report, based on the nature of the subproject.

Executive Summary. The executive summary should depict the highlights of the subproject. It should state the original goals and objectives of the subproject, the final capability or product, benefits and payoffs, and proposed transition of the proven technology to the T&E community, if applicable.

History and Schedule. This section should include the history and complete schedule of the subproject. A chronological list of major events of the subproject as well as any technical delays, schedule slippages, or any other significant successes and failures should be included.

Funding. This section should contain the subproject's funding profile for each fiscal year. Planned and actual obligations and expenditure data should be included.

Funds Distribution. This section should identify how the TTD&D funds were distributed for each fiscal year. Government organizations and/or contractors should be specified to include contractor(s) name, type of contract and actual cost to include fees, if any. Geographical locations where work was performed should also be provided.

Lessons Learned. This section should describe any problems encountered and how they were resolved relating to overall planning, execution and transition.

APPENDIX E

TTD&D MID-YEAR REVIEW BRIEFING FORMAT

This appendix provides a detailed description of the content and format that should be used in the preparation and presentation of subprojects Mid-Year Review briefs. Project Directors are required to use the prescribed format

1. Cover Page.

The cover page will include

- a. Subproject Title
- b. Service/Agency
- c. Subproject Director/telephone and fax number/
- d. E-mail address

2. Outline Chart

Standard outline to be used for the brief.

3. Project Description

This chart should include a concise description of the subproject and a detailed description of expected outcomes, deliverables, products, etc. Include a current graphic of the subproject.

4. Technical Status

Describe the status and assessment of work performed to date on the subproject. Identify proposed technical approach to include any deviations from original approach. Include risk assessment, alternative solutions, and impact as a result of any significant deviations.

5. Project Funding

Show funding status per the attached format. The **Original Estimate** is the estimated funding when the subproject was initiated. **Current Approved** funding is the funding profile contained in the LOI. **Required Funding** is the Project Director's current best estimate needed to complete the subproject with the current technical content and best estimated schedule. This estimate may not agree with the Current Approved budget. **Other Funding** are sources of funding other than TTD&D that are being used to fund the

subproject. **Delta Required** is the difference between the Current Approved budget and the Required Funds.

6. Fund Status

Shows overall funding status for current and prior year funding. **Funds Received** are funds that the subproject has received to date. **Obligation** is the subproject's total amount of orders placed, contracts awarded, services rendered, or other transactions that legally encumbers a specified amount of an appropriation or fund for expenditures. **Accrual (Unpaid Expenditures)** is the subproject's total cost incurred during a given period representing liabilities (amounts due and payable) for goods and services received, other assets acquired and performance accepted, prior to payment being made. **Disbursement (Paid Expenditures)** is the subproject's total charges against available funds representing actual payment as evidenced by vouchers, claims, or other documents approved by a competent authority. **Expenditure** is the total of accrual and disbursement.

7. Current Year Obligation Status

Show the planned and actual obligations for the current TTD&D funding. In the ACTUAL/REV line, show most current actual data to date and the current/revised plan for the remainder of the year.

8. Current Year Expenditure Status

Show the planned and actual expenditure status for the current fiscal year. Expenditure data should include accruals and disbursements. In the ACTUAL/REV line show the most current actual data and the current/revised plan for the remainder of the year.

9. Upcoming Planned Obligation and Expenditure Chart

Show the planned obligation and expenditure rate for the upcoming fiscal year.

10. Project Master Schedule

Show the subprojects master schedule from initiation to completion using either a Gantt or tabular format. The schedule should include yearly milestones.

11. Organizational Chart

Identify all manpower and support services associated with the subproject.

12. Issues Chart

Identify and discuss any problems, current or anticipated that will affect the subproject.

Include recommendations and a timetable for resolving problems.

13. Summary Chart

Review key points of presentation focusing on actions needed to resolve key problems/issues critical to the overall subproject performance. Identify the decisions that are required and who needs to make the decisions.

FY XXXX Test Technology Development and Demonstration Mid-Year Review



[TTD&D Subproject Title]
[Service/Agency]

Name
Organization
Phone/Fax
E-mail address



FYXX TTD&D Mid-Year Review

[Project Name]

Outline

- Project Description
- Technical Status
- Funding
- Master Schedule
- Management/Organization
- Critical/Key Issues
- Summary



FYXX TTD&D Mid-Year Review

[Project Name]

Project Description

- Project Description
- Planned Demonstrations/Developments
[Include a detailed description expected outcomes, deliverables, products, etc.]



FYXX TTD&D Mid-Year Review

[Project Name]

Technical Status

- Proposed Technical Approach
- Technical Status
- Risk Assessment



FYXX TTD&D Mid-Year Review

[Project Name]

Funding

	PRIOR	FYXX-1	FYXX	FYXX+1	FYXX+2	TOTAL
TTD&D FUNDING						
ORIGINAL ESTIMATE						
FUNDING APPROVED						
REQUIRED FUNDS						
OTHER FUNDING						
DELTA REQUIRED						



FYXX TTD&D Mid-Year Review

[Project Name]

Fund Status

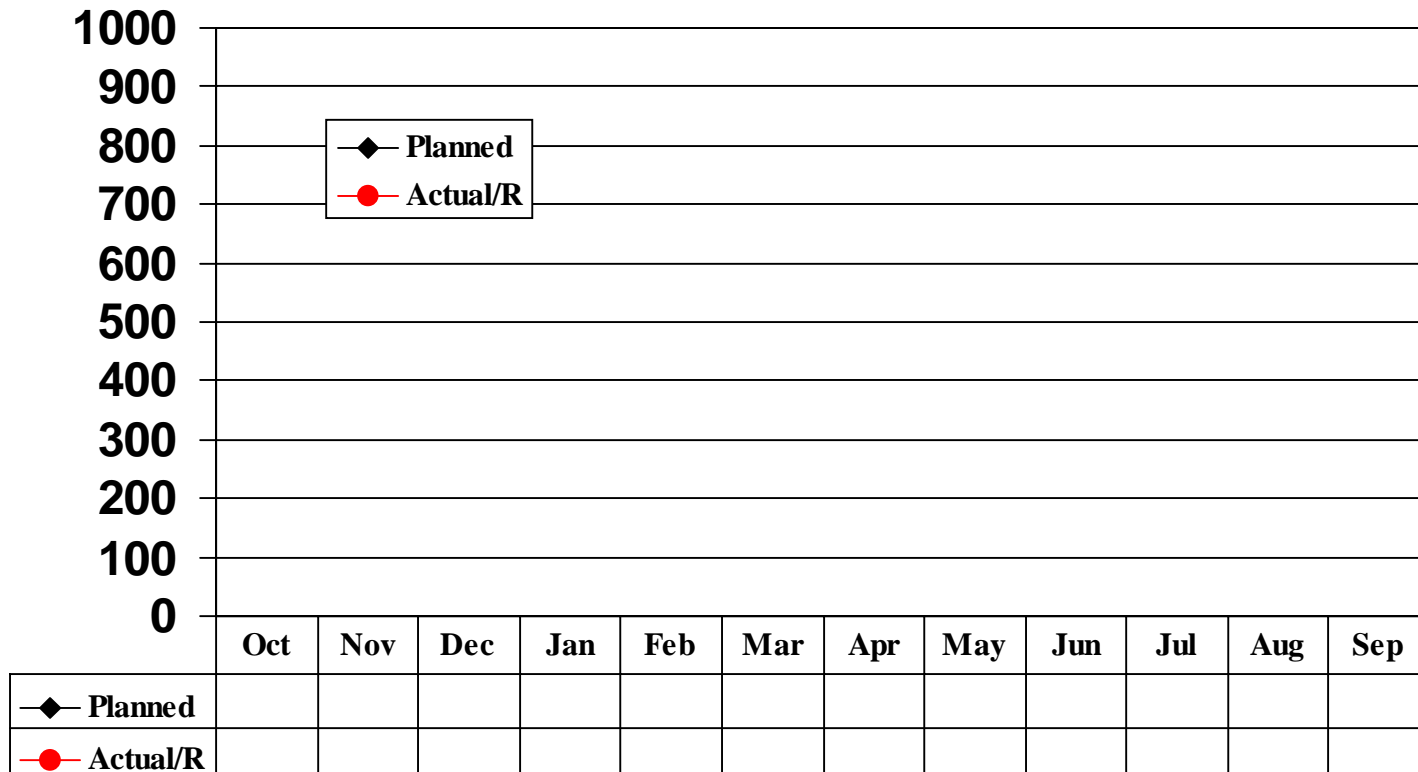
	Funds Received	Obligated	Accrued	Disbursed	Expended
FYXX					
		%			%
FYXX+/-1					
		%			%
FYXX+/-2					
		%			%



FYXX TTD&D Mid-Year Review

[Project Name]

FYXX Obligation Status

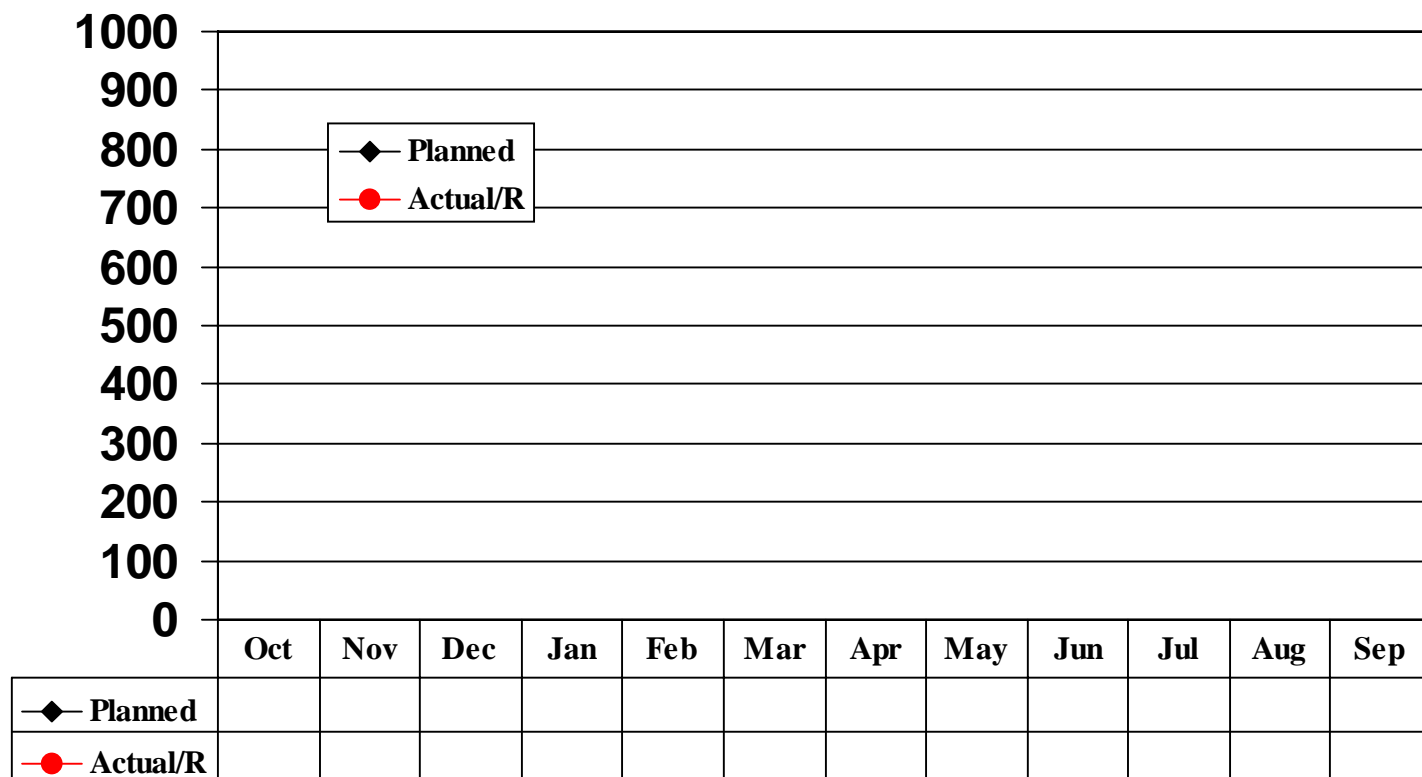




FYXX TTD&D Mid-Year Review

[Project Name]

FYXX Expenditure Status

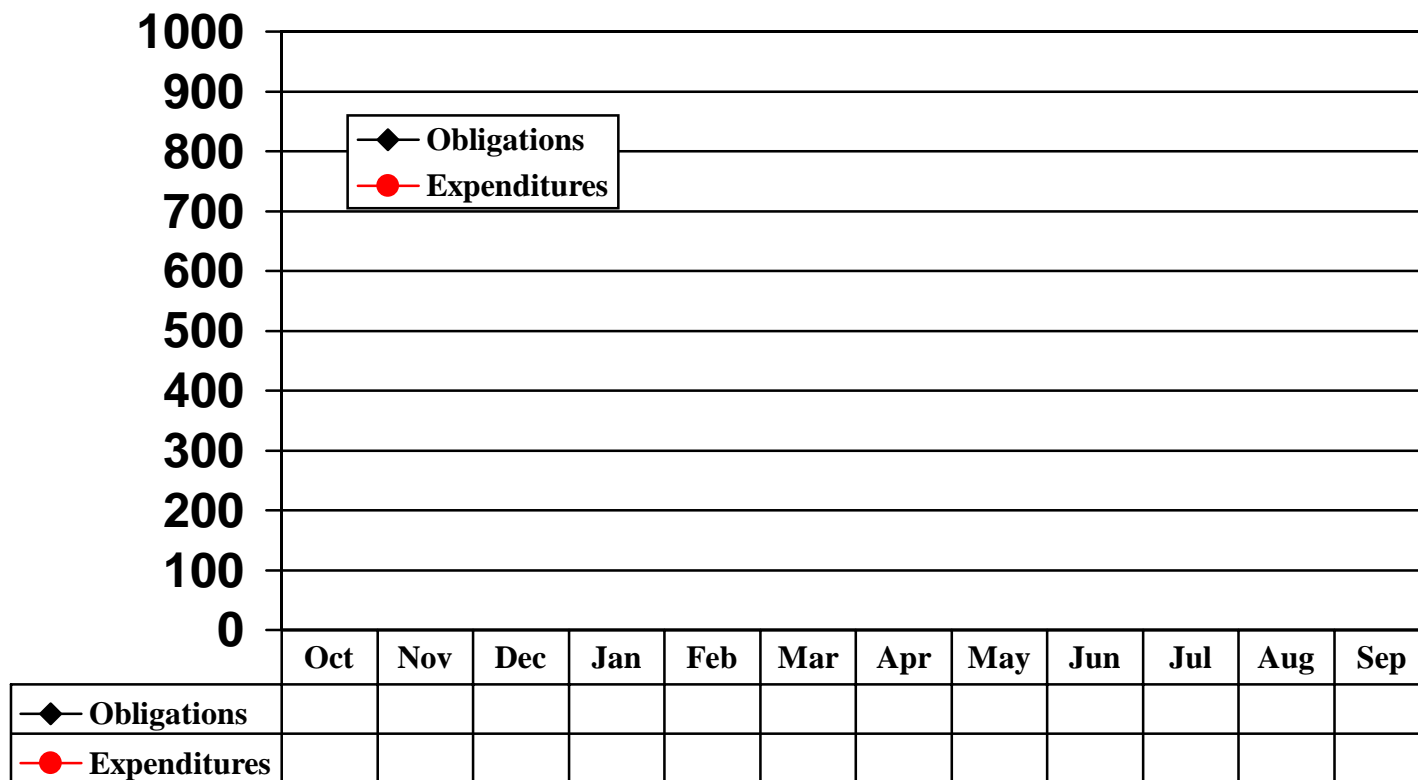




FYXX TTD&D Mid-Year Review

[Project Name]

FYXX+1 Planned Obligations and Expenditures





FYXX TTD&D Mid-Year Review

[Project Name]

Project Schedule

In Gantt or tabular format show original and revised schedule to include yearly project milestones



FYXX TTD&D Mid-Year Review

[Project Name]

Organization

- Project Staff
 - Manpower
 - Facilities
 - Coordination
- Support Service
- Other Service Involvement/Activities



FYXX TTD&D Mid-Year Review

[Project Name]

Issues

- Current/Anticipated Problems
 - Cost
 - Technical
 - Performance
- Anticipated Problems
- Proposed Solutions/Recommendations



FYXX TTD&D Mid-Year Review

[Project Name]

Summary

- Review
 - Deliverables
 - Funding
 - Schedule
 - Risks
 - Manpower
- Issues/Decisions for OSD Action

Appendix F

TTD&D Subproject Management Review Format

This appendix provides a detailed description of the content and format that should be used in the preparation and presentation of Subprojects Management Review.

1. Cover Page.

The cover page will include

- e. Subproject Title
- f. Service/Agency
- g. Subproject Director/telephone and fax number
- h. E-mail address

2. Project Description

This chart should include a concise description of the subproject and a detailed description of expected outcomes, deliverables, products, etc.

3. PROJECT VALIDATION

Identify the T&E shortfall and the technology that is being developed or demonstrated. This chart should explain why the T&E community needs this capability.

4. Technical Status

Describe the status and assessment of work performed to date on the subproject. Identify proposed technical approach to include any deviations from original approach. Include risk assessment, alternative solutions, and impact as a result of any significant deviations. Identify subproject pay-offs and/or benefits.

5. Project Funding

Show funding status per the attached format. The **Original Estimate** is the estimated funding when the subproject was initiated. **Current Approved** funding is the funding profile contained in the LOI. **Required Funding** is the Project Director's current best estimate needed to complete the subproject with the current technical content and best estimated schedule. This estimate may not agree with the Current Approved budget. **Delta** is the difference between the Current Approved budget and the Required Funds.

6. Execution Data

Shows execution data for year of TTD&D funding. **Program** is the funding that was approved in accordance with the LOI. **Obligation** is the subproject's total amount of orders placed, contracts awarded, services rendered, or other transactions that legally encumbers a specified amount of an appropriation or fund for expenditures .

Expenditure is the total of accrual and disbursement. Accrual (Unpaid Expenditures) is the subproject's total cost incurred during a given period representing liabilities (amounts due and payable) for goods and services received, other assets acquired and performance accepted, prior to payment being made. Disbursement (Paid Expenditures) is the subproject's total charges against available funds representing actual payment as evidenced by vouchers, claims, or other documents approved by a competent authority. **Percent Obligated** is the percentage of funds obligated as compared to the funding received. **Percent Expended** is the percentage of funds expended as compared to the funding received.

7. Project Schedule

Show the subprojects master schedule from initiation to completion using either a Gantt or tabular format. The schedule should be detailed enough to provide an understanding of the major steps that the subproject comprises and what has been completed to date. Schedule slips, accelerations, and/or potential problems should be identified.

8. Contract Status

Identify all contract support associated with the execution of the subproject. List contractors, and date and amount of contract award. Discuss contract performance and any future support requirements and/or changes.

9. Organization

Identify all manpower and support services associated with the subproject.

10. Critical /Key Issues

Identify and discuss any problems, current or anticipated that will affect the subproject. Include recommendations and a timetable for resolving problems.

11. Summary Chart

Review key points of presentation focusing on actions needed to resolve key problems/issues critical to the overall subproject performance. Identify the decisions that are required and who needs to make the decisions.



TTD&D Subproject Management Review

PROJECT TITLE

SERVICE/AGENCY

PROJECT DIRECTOR
ORGANIZATION
TELEPHONE
FAX
E-MAIL ADDRESS



TTD&D Subproject Management Review Project Description

- Provide a detailed description of the project



TTD&D Subproject Management Review Project Validation

- Identify T& E shortfall
- Identify technology that is being developed or demonstrated
- In essence, this section is intended to answer the question, “Why does the T&E community need this capability?”



TTD&D Subproject Management Review Technical Status

- Detailed Technical Description and Approach (Describe any deviation from the proposed technical approach. Include risk assessment, alternative solution, and project impacts to any significant deviation.)
- Project Progress (Describe current status and an assessment of prior work in the area.)
- Pay-Offs/Benefits



TTD&D Subproject Management Review Project Funding

Fiscal Year	Original Estimate	Current Approved	Required Funds	Delta



TTD&D Subproject Management Review Execution Data

Fiscal Year	(\$K) Program	(\$K) Received	(\$K) Oblig.	(\$K) Exp.	% Oblig.	% Exp.



TTD&D Subproject Management Review Project Schedule

The project schedule should be detailed enough to provide an understanding of the major steps that the project comprises and what has been completed to date. **Show key milestones.**

Identify slips, accelerations, and/or potential problem areas.



TTD&D Subproject Management Review Contract Status

- Current Contracts (List Contractors)
- Contract Performance
 - ◆ Schedule Variance
 - ◆ Cost Variance
 - ◆ Disputes/Requirements for Prior Year Funds
- Future Support/Changes



TTD&D Subproject Management Review Organization

- Project Office Status
 - ◆ Manpower
 - ◆ Facilities
 - ◆ Coordination

- Support Service

- Other Service Involvement/Activities



TTD&D Subproject Management Review Critical/Key Issues

- Current Problems
- Anticipated Problems
- Recommendations



TTD&D Subproject Management Review Project Summary

- Key Points of Presentation
- Actions to Resolve Key Problems/Issues
- Decisions Required

APPENDIX L

ABBREVIATIONS AND ACRONYMS

AAW	Anti-Air Warfare
ACAT	Acquisition Category
ASUW	Anti-Surface Warfare
ASW	Anti-Submarine Warfare
BMD	Ballistic Missile Defense
BES	Budget Estimate Submission
BoD	Board of Directors
BoD(ES)	Board of Directors (Executive Secretariat)
BoD(ESS)	Board of Directors (Executive Secretariat Staff)
C ³ I	Command, Control, Communications, and Intelligence
C ⁴ I	Command, Control, Communications, Computers, and Intelligence
CBD	Chemical and Biological Defense
CDR	Critical Design Review
CRA	Continuing Resolution Authority
CTEIP	Central Test and Evaluation Investment Program
CW	Chemical Warfare
DBA	Direct Budget Authority
DFSA	Defense Finance and Accounting Service
DoD	Department of Defense
DOT&E	Director Operational Test & Evaluation
DPG	Defense Planning Guidance
DRFP	Draft Request for Proposal
DT&E	Development Test & Evaluation
DTTSG	Defense Test & Training Steering Group
EC	Electronic Combat
EMD	Engineering and Manufacturing Development
FCT	Foreign Comparative Testing
FOC	Full Operational Capability
FTP	File Transfer Protocol
FY	Fiscal Year
FYDP	Future Years Defense Program
GFE	Government Furnished Equipment
GFM	Government Furnished Materials
I&M	Improvement and Modernization
ICA	Independent Cost Analysis
IOC	Initial Operational Capability
IPT	Integrated Product Team
JIM	Joint Improvement & Modernization
JPO(T&E)	Joint Program Office (Test & Evaluation)
JTTOCS	Joint Test & Training Operations Control System
JTTRR	Joint Test and Training Range Roadmap
LFT&E	Live Fire Test & Evaluation

LCSP	Life Cycle Support Plan
MADP	Mission Area Development Plan
MAP	Mission Area Plan
MOU	Memorandum of Understanding
MILCON	Military Construction
MRTFB	Major Range & Test Facility Base
MSP	Mission Support Plan
O&M	Operation & Maintenance
OMB	Office of Management and Budget
ORD	Operational Requirements Document
OSD	Office of the Secretary of Defense
OT&E	Operational Test & Evaluation
OTICC	OSD Test Investment Coordinating Committee
PB	Presidents Budget
PBD	Program Budget Decision
PD	Project Director
PDR	Preliminary Design Review
PEM	Program Element Manager
PMP	Project Management Plan
POM	Program Objective Memorandum
PPBS	Planning, Programming, and Budgeting System
RCC	Range Commanders Council
RDT&E	Research, Development, Test & Evaluation
REP	Resource Enhancement Project
RFP	Request for Proposal
SECDEF	Secretary of Defense
SDR	Software Design Review
S&TI	Science and Technical Intelligence
T&E	Test & Evaluation
T&E EA	Test and Evaluation Executive Agent
TCBA	Test Capability Benefit Analysis
TCMP	Test Capability Master Plan
TCRD	Test Capability Requirements Document
TECNET	Test & Evaluation Community Network
TECWEB	Test & Evaluation Community Web
TEMP	Test & Evaluation Master Plan
TIRIC	Training Instrumentation Resource Investment Board
TMD	Theater Missile Defense
TPD	Test Package Directive
TRAG	Test Resources Advisory Group
TRMP	Test Resource Master Plan
TSPI	Time Space Position Information
TTD&D	Test Technology Development and Demonstration
UAV	Unmanned Aerial Vehicle
USD(AT&L)	Under Secretary of Defense for Acquisition, Technology & Logistics